THE BUILDER
A JOURNAL FOR THE ARCHITECT & CONSTRUCTOR

VOL. CL. MARCH 20 1936 No. 4859

NEW CLUB HOUSE AT GEZIRA SPORTING CLUB, CAIRO.

MR. E. G. NEWNUM, F.R.I.B.A., Architect.

(See page 590.)

MEETINGS

FRIDAY, *March* 20.

London Society. Mr. W. Godfrey Allen on "Recent Investigations at St. Paul's." 5 p.m.

Institution of Structural Engineers (*Midland Counties Branch*). Mr. B. C. Hammond on "Reconstruction of the Holt Fleet Bridge." At Worcester. 7 p.m.

Institution of Heating and Ventilating Engineers (*Manchester and District Branch*). Mr. J. Saunders on "Automatic Stokers." At the Engineers' Club, Manchester. 7 p.m.

L.C.C. School of Building. Opening of the New Extension at Ferndale-road, Brixton, by Mr. Oliver Stanley, President of the Board of Education. 7 p.m.

MONDAY, *March* 23.

Institution of Structural Engineers. Annual Dinner. The Rt. Hon. Sir Kingsley Wood will be present. At the Dorchester Hotel. 7.30 p.m.

Royal Institute of British Architects. Mr. W. H. Ansell on "Architectural Education." 8 p.m.

TUESDAY, *March* 24.

Institution of Civil Engineers. Mr. S. R. Banks on "Superstructure of the Island of Orleans Suspension Bridge, Quebec." 6 p.m.

TUESDAY-SATURDAY, *March* 24 *to April* 18.

"*Daily Mail*" *Ideal Home Exhibition.* Opening by the Right Hon. Sir Kingsley Wood, M.P., Minister of Health. At Olympia, W. Tuesday, March 24, 11.30 a.m.

WEDNESDAY, *March* 25.

Incorporated Association of Architects and Surveyors (*London and Home Counties Branch*). Sir Robert Tasker on "The New Building Act." 7 p.m.

Institution of Civil Engineers. Mr. C. F. J. Lisle on "The Flow of Water in Short Channels." At the Grand Hotel, Sheffield. 7.30 p.m.

St. Paul's Ecclesiological Society. Mr. W. E. Brooks on "Modern Churches in England." At 66, Portland-place, W.1. 8 p.m.

Institute of Welding (*North-Western Branch*). Mr. J. A. Dorrat on "Development of Atomic Hydrogen and of Oxy-acteylene Welding." At the College of Technology, Manchester. 7.30 p.m.

THURSDAY, *March* 26.

Institution of Structural Engineers. Mr. H. W. Coultas on "The Effect of the Coarse Aggregate and other Factors on the Properties of Concrete." 6.30 p.m.

Society of Antiquaries. Messrs. E. Evans and O. Davies on "Northern Irish Long Cairns"; and Professor H. J. Fleure and Mr. G. J. H. Neely on "Cashtal-yn-Ard, Isle of Man." 8.30 p.m.

L.C.C. Geffrye Museum. Mr. Ingleson C. Goodison on "Furniture: Queen Anne and Georgian Houses and Furniture." 7.30 p.m.

FRIDAY, *March* 27.

London Association of Master Decorators. Dinner and Dance. At the Trocadero Restaurant, W.1. 7 p.m.

Institution of Structural Engineers (*Midland Counties Branch*). Mr. H. W. Coultas on "The Effect of Coarse Aggregate and other Factors on the Properties of Concrete." At the James Watt Memorial Institute, Birmingham. 6 p.m.

London County Council. Opening of the Oaklands Estate, Poynders-road, Wandsworth, by the Rt. Hon. Lord Snell, Chairman of the Council. 3 p.m.

FRIDAY AND SATURDAY, *March* 27 *and* 28.

Royal Sanitary Institute. Friday: Mr. B. Robinson on "Snags in Housing Schemes." At the Town Hall, Birkenhead. 4.30 p.m. Saturday: Visit to the Mersey Tunnel.

SATURDAY, *March* 28.

Incorporated Institute of British Decorators. Northern District Annual Meeting. At Morecambe.

St. Paul's Ecclesiological Society. Visit to Hampton Court Palace. Conducted by Mr. Edward Yates.

MONDAY, *March* 30.

South-Eastern Society of Architects. Mr. G. Grey Wornum on "Modern Architecture and the Craftsman." At 1, Edridge-road, Croydon. 8 p.m.

TUESDAY, *April* 2.

National Smoke Abatement Society. Visit to Birmingham Power Stations. Meet at the Town Hall, Birmingham. 11.30 a.m.

TUESDAY-FRIDAY, *March* 31-*April* 3.

International Timber Conference. March 31: Opening Session, London Chamber of Commerce; Banquet in Carpenters' Hall. April 1: Visit to Forest Products Research Laboratory, Princes Risborough. April 2: Papers at R.I.B.A. Premises. April 3: Sessions, London Chamber of Commerce.

WEDNESDAY, *April* 1.

Barnes Central School. Exhibition of Students' Work.

AUXERRE.

FROM A WATER-COLOUR DRAWING BY PROFESSOR A. E. RICHARDSON, A.R.A.

THE DEFENCE PROGRAMME

THERE can be no difference of opinion as to the fact that the country is faced with a heavy expenditure in connection with the armed services. We can take it for granted that there is to be a major reorganisation of our resources on this account, in which commercial and trade interests are deeply concerned. These matters will directly interest the engineering and chemical industries and a number of others, and we must be prepared for its effect upon the building industry.

With such scanty information as we have before us it would be futile to estimate the amount of building work which must arise on this account, and it is not our purpose to attempt anything of the sort at this stage. We make this early comment upon the situation, however, to remind those concerned of an important part of the scheme, which enters upon all its phases, and in which the building industry may come off badly in the end if it is not fully considered at the outset. We refer to the supply of trained labour.

If this activity does absorb more building labour instead of diverting existing supplies from building work possibly nearing saturation point, there will be a call for skilled labour for which we may be unprepared. Such a call may prove an immediate embarrassment if all parties do not co-operate to render its incidence as easy as possible. If we allow also for the stimulus to industry which the programme may create, reflecting itself in directions quite unrelated to arms, the call for assistance will be cumulative, and we shall be forced to look ahead for recruits.

We have noted that the Trade Unions are not likely to ignore this question, and that the problem of training of an intensive kind will not be forgotten. That means that the young people of the immediate school-leaving age are likely to have presented for their choice an opportunity to become skilled in a trade within a shorter period than has been possible before. Among those trades will be some that have always been attractive to boys, such as various branches of engineering, and the later trades connected with aviation.

If matters are left to take care of themselves, we have no doubt that trades of this kind will be quickly supplied for future needs, and that there may be a deficiency in less spectacular trades which have as important a bearing upon the whole problem. We therefore suggest that when labour is organised for the task, some attempt should be made to regulate the flow into all the vital trades, and that of these the building industry in particular shall receive a just measure of consideration. This is no prejudiced or alarmist appeal, but arises out of the certainty that, for some obscure reason, young men seem to prefer oil to brickdust as a variety of dirt.

If we can assume that matters will be regulated in this way, the task is simplified, though still far from ended. We shall have to consider very carefully the form to be taken in intensive training, if, as seems likely, this should prove necessary. There are many pitfalls to be avoided. Much of the building work may be of a semi-temporary kind, needing little advanced skill to carry out, and it will not be difficult to train men quickly with sufficient capability for such tasks as these. Let us not too lightly lay aside this relief to our problem, because we shall not benefit in any lasting way by a spurious boom if we do not look far ahead to the future.

The immediate intensive programme may extend through a period of five or even ten years, before settling down to normal. It would indeed be a tragedy if we found ourselves, at the end of that period, with thousands of partly-trained craftsmen, no longer fit to respond to the needs of a normal building programme. On the other hand, if we went more cautiously at the outset and equipped ourselves with a supply of fully-trained men, fit to operate in any class of building, would it be unwise to trust to fate to provide the outlet for their energies when the immediate phase had passed? At least we should press for a long view in the organisation of any programme of intensive training. It should be intensive in the sense of eliminating the wasteful periods which enter into the life of a normal apprentice. It should aim at thorough, positive instruction, rather than at the negative instruction upon which the apprentice often has to depend.

Our warning is against a type of intensive training which attempts to save time by leaving out essential parts of the complete craftsman's equipment because they do not apply to the task immediately in view. This should be an opportunity for building up a new and keen-brained generation of workmen, who would be soon ready to take their share in an emergency, and who would be still fit to take their share in normal community life when the emergency had ceased.

We have long suffered from a disregard of the future in relation to training. There are many thousands of building craftsmen who have been trained to do nothing but small house-building of an indifferent class. Their idea of perfection is the minimum standard of workmanship demanded in the cheapest market. If house-building were to slump, and other branches of building become stimulated, it would be very difficult indeed to absorb a tenth of this type into the altered régime. That is a risk we must not aggravate in the present circumstances, and one which is seriously threatened if we do not make our plans sufficiently far ahead. There is an urgency about the present situation which tends to obscure those qualities of caution which are the essence of statesmanship. The building trade must arouse itself, while protecting itself against a future that may easily prove more difficult than any previous experience.

To architects, this matter is of special importance, because though there must be some favourable reaction upon the ordinary field of practice, a great deal of the building that will be done will follow courses outside normal architectural practice. The craftsman is an indispensable partner in the pursuit of fine architecture, and there is nothing that reflects more harshly upon the complete success of an architect than the inability to get his ideas translated into understanding facts. If there were a tendency to ignore building as a complete matter of skill, even to the extent of diverting skilled craftsmen to tasks where their skill were not needed in full measure, and where they grew stale, there is no profession that would lose more, both in personal interest as well as in pocket, than that of the normal practising architect.

It will be well, therefore, if we see the leaders of the architectural profession taking an immediate interest in this initial problem of training: for the temptation is to say that big guns, battleships, and bombing planes have little technical interest for the architect. Neither have they, but the life of the latter depends upon a healthy building trade, served by men who know their job, and who delight in overcoming difficulties. We shall therefore watch with keen interest the reactions to events of those chosen to represent a great industry and a great profession.

NOTES

Garages for Houses.

THE provision of a motor-car garage as part of the modern house is nowadays accepted as a matter of course by both architects and builders, but in the small house the garage accommodation is, it appears, inadequate for the purpose of housing the larger cars which are now being made. The National Motorists' Association are drawing attention to the tendency of builders and architects, as they say, to equip modern houses with inadequate garages. "It is to be assumed," state the Association, "that the policy of designing houses with integral garages of only about 12 feet depth resulted from the popularity of small cars, but the motoring public is becoming 'big-car minded,' and it is necessary that more ample provision should be made for the accommodation of cars. . . It is important that the public taste for big cars should be encouraged. This was appreciated by the Chancellor of the Exchequer when he granted a 25 per cent. 'flat' tax reduction. The economic welfare of the country depends largely on export trade, and the Chancellor's concession was made so as to encourage the production of world-type cars. But if they are to be successfully produced, the domestic market must be a good one, and the doll's house garage operates against this. In designing home garages, architects should arrange not only for the accommodation of a large car, but for the provision of extra space so that repairs and adjustments may be undertaken in comfort." Architects and builders will no doubt take note of the Association's request, but we would point out that great numbers of small houses are not designed by architects, but are built as cheaply as possible for quick sale. Larger garages must add to their cost unless a saving is effected on the house, and this in turn may tend to reduce sales, for not every householder desires, or can afford, to run a car. The matter should be easy of adjustment. With many small houses, it is the practice to leave "space for garage," which may be built afterwards to the buyer's requirements. In the case of larger houses the garage is usually large enough to take a big car.

Hardwick's Portico at Euston.

THE subject of the reconstruction of Euston terminus, which has already been referred to in our columns, was raised by Lord Crawford at the annual meeting of the London Society on March 11. His lordship expressed the hope that in any reconstruction of Euston Station the authorities would find it possible to maintain the open character of the area between Euston Road and the station proper, and also that it might be possible to preserve the great portico built by Philip Hardwick, leading into Euston Station. It was one of the great railway constructions of the world and was just about to approach its centenary. "I am afraid," he continued, "that the archway does not inspire as much respect in the minds of the railway company as in my own mind, for it is covered with advertisements. Yet it remains a really noble entrance to the metropolis. The three big northern stations—Euston, St. Pancras and King's Cross—all open into free spaces, and I hope that that will be maintained." We feel sure that Mr. Percy Thomas, who is the consulting architect for the scheme, will use his influence with the railway company to deal sympathetically with this great work.

A Suggested Rennie Memorial.

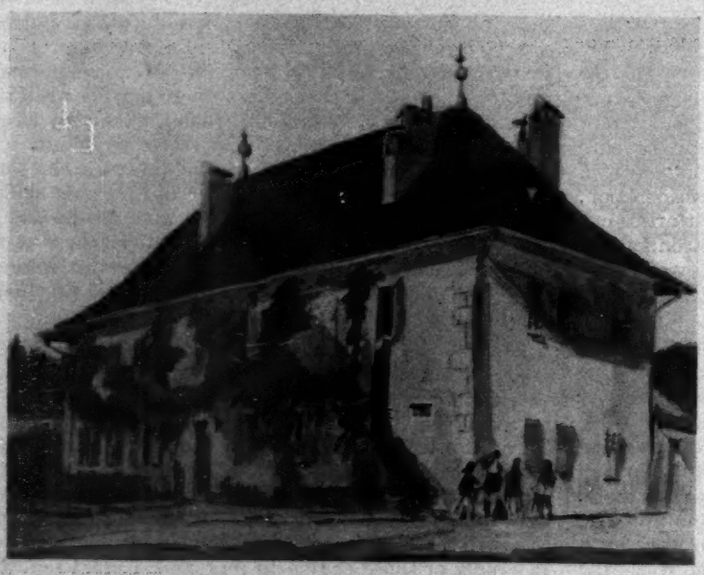
THE demolition of Waterloo Bridge is proceeding with such expedition that only the piers and abutments now remain and soon nothing of Rennie's fine bridge will be left to remind us of a structure which in our opinion should not have been destroyed. A correspondent writing to *The Times* suggests that "some fragments" of the bridge should be secured and set up as a memorial to Rennie "on his native heath at East Linton in Scotland." There is no distinctive memorial to him at the present time, it appears, and the suggestion is one which we hope will receive support. Unfortunately, the local authority have no power to raise a rate to cover the cost of a memorial of this kind, and so it must be left to others to give a lead, and it is suggested that some responsible society interested in Rennie and his work should take up the matter, and that the London County Council should make a gift of a parcel of stone from the old bridge. Another correspondent endorses the suggestion, and puts on record an anecdote which our readers may not have heard before. An engineer and a lay friend were walking along the Embankment, and the latter remarked, "How sad it is to see one of *Wren's* masterpieces being ruthlessly torn down. "Yes," said the engineer, and unwilling to expose his friend's ignorance, added, "but we engineers, in our affectionate way, call him *Rennie*."

London Architecture Medal for Brick Building.

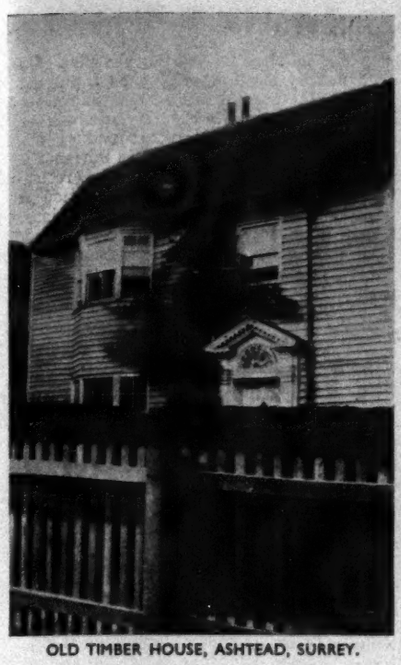
THE second award of a gold medal to be presented annually by the Tylers and Bricklayers Company to the architect of a building judged to have the most merit within the R.I.B.A. radius of eight miles from Charing Cross, will be announced in June. The building is to be of brick and tile (buildings having a small amount of stone or other dressings will not necessarily be precluded), and must have been completed within the last three years ending December 31, 1935. Any practising architect is at liberty to nominate any buildings, including his own, for the consideration of the jury; no special form is necessary, and the following information only should be given:—Name, situation and architect of building, signed by the nominator. Nominations must be sent to the Clerk of the Tylers and Bricklayers Company, 6, Bedford Row, W.C.1, not later than April 15. The Company will have the assistance of the R.I.B.A. in judging the award.

Wages and Incentive.

THAT a worker's best incentive to good work is not a "driving" system of wages, but a sense that his craftsmanship is appreciated, is the view expressed by Mr. D. W. Harding, of the London School of Economics, writing in the journal of the National Institute of Industrial Psychology. "Incentives," he says, "formerly meant wage-payment systems. And few false conceptions have done more harm in industry. Not only has damage resulted from the strain induced by 'driving' systems of payment, but other more desirable forms



THE CURE AT THORENS, HAUTE SAVOIE.
FROM A WATER-COLOUR DRAWING BY PROFESSOR A. E. RICHARDSON, A.R.A.



OLD TIMBER HOUSE, ASHTEAD, SURREY.

of incentive have been ignored. Among these are the worker's interest in his work and his social satisfactions derived from it. One of the most important functions in the science of industrial psychology now being applied to human problems is to attack the feeling of being an unheeded cog. 'Money success' is no compensation for the sense of loss of social individuality and worth within a worker's occupational group. A direct approach to the problem is to give workers more information about the firm's work and their own part in it. By increasing the worker's interest in what he does, industrial psychology is laying the foundation of the social attitudes that industrialists constantly desiderate—the 'team spirit' and a loyalty to one's firm."

"Britain's Building Boom."

WHILE in recent years building in Great Britain has shown pronounced activity, it has been relatively stagnant in the United States. This statement is contained in *The Index*, a leaflet published by the New York Trust Company, of New York. Building societies have played an outstanding role in assisting building in Britain, it is pointed out. They have provided about 90 per cent. of the necessary money for private building and have lent it on favourable terms. The prevailing mortgage rate in the United States is 6 per cent. with a general maximum of eleven years for amortisation. In Britain, on the other hand, building societies have lowered interest rates to 4½ per cent. and grant mortgages ordinarily running for 20 years. Even President Roosevelt's Federal Housing Administration has only begun to approach the favourable British building society terms. Another important factor, the *Index* shows, is that while building costs have arisen in the United States, they have fallen steadily in Britain, until they are now lower than at any time since the War. In addition, living costs have fallen in Britain while they have risen in America. As a result there has been available here a margin for house purchasing which is not available in the United States.

The Old Timber House.

THE old timber house illustrated on this page is at Ashtead. It has a well-balanced elevation, with a nicely proportioned porch and skilfully designed fanlight; every part of the design is in character and proportion with the other. A good number of these old cottages survive in the Epsom, Leatherhead and Ashtead district. They appear to receive little attention, but stand the climatic changes well. Most of them must be well over a century old. A comparison between these old houses and the recently illustrated designs for timber houses is very interesting. The old ones have a more homelike character, though the plans of the recent designs no doubt are more efficient.

Formation of Housing Associations.

A LEAFLET published by the National Federation of Housing Societies, 13, Suffolk-street, Pall Mall, S.W.1, contains a useful summary of the steps necessary to be taken in the formation of a housing association for assisting the erection of working-class dwellings. This four-page leaflet is an excellent example of succinct preparation of information, and details also the assistance which this active Federation is prepared to give in the formation of new associations. Not least is the Federation's readiness to send their officers to meet any person, or group of persons, to discuss such matters.

The New Associates of the Royal Academy.

THE two elections to the Associateship of the Royal Academy on Tuesday will give general satisfaction amongst architects and sculptors, for in Professor A. E. Richardson, F.S.A., architect, and Mr. A. F. Hardiman, sculptor, the personnel of the Academy will be strengthened. In partnership with Mr. C. Lovett Gill, Professor Richardson has designed many important buildings in London and elsewhere, for one of which the firm received the medal in 1931 awarded annually by the R.I.B.A. for the best street frontage erected within the previous three years. Professor Richardson's artistic versatility is well known to our readers, for, apart from his architectural work, he possesses exceptional gifts as lecturer, author and writer, and quite remarkable ability as an architectural draughtsman, as shown by his many "fantasies" and sketches published in our pages for many years past. As Professor of Architecture at the Bartlett School, University College, London University, his influence in the development of architectural thought and practice has been considerable, and his vast store of artistic knowledge and his personality should be of great value to the Academy schools. His many friends in the profession will heartily congratulate him upon a well-deserved honour.

FARMHOUSE, LE PLOT, HAUTE SAVOIE.
FROM A WATER-COLOUR DRAWING BY PROFESSOR A. E. RICHARDSON, A.R.A.

GENERAL NEWS

Professional Announcements.

Messrs. Stock, Page and Stock, of 18, St. Thomas's-street, London Bridge, S.E.1 (telephone: Hop 3325-3326), announce that they have taken into partnership Mr. Terence Culmer Page, A.R.I.B.A., A.A.Dip. The firm will continue to transact business under the title of Stock, Page and Stock.

Mr. J. C. S. Mummery, A.R.I.B.A., has decided to retire from practice as an architect and surveyor, and the business which he has carried on at 17, Southampton-street, Bloomsbury, W.C.1, under the style of "Rowland Plumbe and Partners" will therefore be closed down as from March 25. Any outstanding matters will be dealt with from Mr. Mummery's private address at 85, Pellatt-grove, Wood Green, N.22. Telephone: Bowes Park 3577.

New College Buildings, Aberystwyth.

Mr. Percy Thomas, P.R.I.B.A., 10, Cathedral-road, Cardiff, has been appointed architect for the first of the new college buildings to be erected on the Penglais site, adjoining the National Library of Wales. This building will be an agricultural research block, and will provide accommodation for the offices of the Welsh Plant Breeding Station and for the Department of Agricultural Economics.

Polytechnic School of Architecture: Annual Dinner.

The twelfth annual dinner of the past and present students of the Polytechnic School of Architecture (Surveyors' and Auctioneers' Section) will be held on Wednesday, April 8, at the Comedy Restaurant, Oxendon-street, W.1, at 7 o'clock for 7.15 p.m. Tickets, price 6s. 6d., are obtainable from Mr. A. H. Post, F.S.I., 89, Durham-road, Fortis Green, N.2; Mr. F. J. Smith, P.A.S.I., 13, Clevelandgardens, S.W.13; and Mr. A. E. F. Giffard, F.A.L.P.A., 82, Baker-street, W.1. Early application is requested.

Old Oak Panelling.

An advertisement appears in this issue relative to the sale of a property known as the Gungrog Hall Estate, Welshpool, Montgomeryshire. In this house is some old oak panelling and a chimney piece, and it is interesting to note that some of the panelling was purchased by a former owner through an advertisement which appeared in *The Builder* for April, 1861, relating to the sale of building materials of Shenstone Park, four miles from Litchfield; and some of the remainder through an advertisement in *The Builder*, probably in June, 1861, relative to the sale of building materials at No. 107 and 108, Cheapside, London.

Rateable Value of the City.

The report of the Assessment Committee of the Corporation of London shows a total decrease in the rateable value of the City of £820,639, and a decrease of £800,536 on the totals at April 6, 1935. The list is in seven volumes and shows 29,822 hereditaments, compared with 12,944 at the quinquennial revision of 1930. The committee say:—

"We have been impressed with the evidence which has been submitted to us of a very pronounced fall in rental values in certain parts of the City as a consequence, no doubt, of the recent industrial depression and the increasing number of unoccupied premises of recent years. In this connection, it is interesting to note that the loss by empty properties immediately prior to the outbreak of war in 1914 amounted to 2.423 per cent. Losses from this cause amounted to 8.3 per cent. for the year ended March, 1935, or higher than in any other area in the Administrative County—the eastern and western parts of the City being least affected.

"A large number of these unoccupied premises are warehouses, while many are office buildings of old construction and without the amenities provided by modern buildings."

COMPETITION NEWS

Proposed Mental Colony, Ormskirk.

In connection with the competition proposed by the Lancs Mental Hospitals Board for a mental hospital at Ormskirk, to cost approximately £1,500,000, Mr. John Kirkland, F.R.I.B.A. (who, with Mr. C. E. Elcock, F.R.I.B.A., and Professor L. P. Abercrombie, F.R.I.B.A., is acting as assessor), writes: "The conditions, etc., of the proposed competition for the Mental Hospital and Mental Deficiency Colony will not be available for some weeks; but inquiries on the subject should be made in due course direct to the Clerk to the Lancashire Mental Hospitals Board at Preston." Premiums of £500, £400, £300, and £100 will be offered.

Public Elementary Schools, Folkestone.

Folkestone T.C. invite architects to submit designs for the proposed Harcourt Public Elementary Schools in Surrenden-road, Folkestone, and have appointed Mr. Verner O. Rees, F.R.I.B.A., of 33, Bedford-place, London, W.C.1, as assessor. Premiums of £200, £125 and £75 are offered. Conditions and site plan are obtainable on deposit of £1 1s. from Mr. C. F. Nicholson, Town Clerk, 11, Church-street, Folkestone, to whom designs must be sent by May 1. Questions by March 31.

GENERAL INSTRUCTIONS.—The Corporation contemplate a maximum total expenditure of £25,000 for the completed school buildings, including mechanical services, fixed furniture and playgrounds, but excluding architects' and quantity surveyors' fees and clerk of works' salary. The Corporation desire simple and efficient buildings, expressive of their character, relying for their effect on good proportions and the relation of their masses. Economy in planning, construction and upkeep should be carefully considered. Open corridors are not desired. Good cross ventilation must be provided for all rooms used by children. The Corporation will provide the furniture but the architect must show and allow for cost of built-in cupboards, fixed blackboards, domestic equipment, such as stoves, etc. The buildings are to be erected within the boundaries of the unhatched portion on the site plan (reproduced). The stream shown on plan will be diverted . . . and the cost thereof should be excluded from the competitor's estimate. The proposed line of the piped stream is approximate only; competitors should show on the design the desired line of the piped stream. The plans should show details of approach roads, tarmac playgrounds and general lay-out of land surrounding the buildings, and how it is suggested the surplus land (if any) might be used. The hatched portion on the plan will be laid out by the Corporation as a playing field, and this part of the scheme is not included in the competition. The site will be approached both from Harcourt-road on the west and also from the entrance in Surrenden-road on the east. Competitors are recommended to visit the site. No restriction is imposed as to the design of the elevations. Alternative schemes will not be allowed. Several trial holes have been made, and for the purpose of the estimate a satisfactory foundation approximately 2 ft. below ground-level may be assumed. The nature of the subsoil is loose-sandy soil.

The schedule of accommodation provides for 300 senior girls and for 350 infants and juniors (mixed).

Proposed Town Hall, Barking.

Mr. H. V. Lanchester, F.R.I.B.A., has been appointed sole assessor by Barking Corporation in the competition for a new town hall. Mr. Lanchester has submitted a schedule of accommodation and draft conditions, which have been approved in principle.

New Council Offices, Dartford.

Dartford Corporation is to invite competitive designs for new municipal offices. Premiums amounting to £350 are to be awarded.

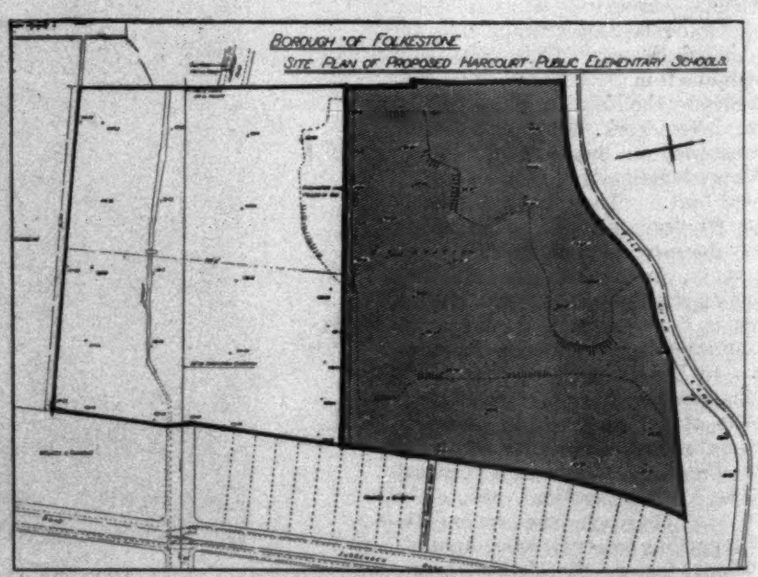
Proposed Civic Centre, Newport (Mon.).

The Parliamentary Committee of Newport (Mon.) Corporation have recommended the Corporation that architects should be invited to submit plans and drawings—(1) For the best lay-out of the site for the erection of a new town hall, central police headquarters with Assize courts, police court and county court, and museum and art gallery; (2) for the design of a new town hall, central police headquarters with Assize courts, police court and county court, the town hall to provide accommodation for a staff 50 per cent. greater than are at present employed by the Corporation, and a main hall to seat 1,500, and all other necessary accommodation.

Premiums of £750, £500, £300, and £200 will be offered. It is understood that the two sections of the competition will be decided as one. Mr. C. F. Ward, F.R.I.B.A., Borough Architect, will act as the joint assessor with a nominee of the R.I.B.A.

New Council Offices, Farnham, Surrey.

Farnham U.D.C. are to hold a competition for new council offices. Mr. E. Vincent Harris, O.B.E., F.R.I.B.A., has been appointed assessor. No conditions yet available.



HARCOURT PUBLIC ELEMENTARY SCHOOLS COMPETITION, FOLKESTONE: Site Plan

THE FUTURE OF ARCHITECTURAL PRACTICE

By A Practising Architect.

I.—RETROSPECT.

In comparing current conditions with those that have passed, it is not always a simple matter to place the existing fact and the historical memory on their comparative planes. Things which have worked themselves out without disaster, but by the blessing of good fortune, may appear to be part of a well-found plan when viewed in the light of past events, whereas the slightest inclination to trust to our destiny in the future seems now an unwarrantable shirking of responsibility. Progress is, in fact, a nice adjustment between faith in the plan of Nature, and an energetic share in the plan of man.

Experience is not an infallible guide, and imagination not always a reliable inspiration. One enters upon the task of a constructive excursion into the history and future of architectural practice with considerable diffidence, knowing full well that "mice and men" have failed despite diligence, and that the past has continually shown endless permutations and combinations of result, as well as the merit of repeating itself.

The architect, as such, owes his appearance to the self-consciousness of builders. So soon as the element of choice entered upon the process of building, the necessity for the directing mind, both as a planner and administrator, appeared. The greater the element of free choice, and the more advanced and complicated the ways of building, the more insistent became the demand for the architect: which suggests that the Future of Architectural Practice is a subject of ever-increasing importance.

We shall, however, adjust our minds more readily to the task which has been chosen if we examine those not distant times, almost within memory, when practice appeared to differ in no essential element from that of to-day, and when the element of stability appeared to be more firmly established than now.

The late-Victorian architect was normally regarded as in comfortable circumstances, whether his sphere was in London or in provincial obscurity. He was essentially a professional man, holding to a status which compared reasonably with that of the doctor or the lawyer. There was a steady flow of work coming to him, which he carried through placidly and generally efficiently: and whatever may be our criticisms of the work of this generation of architects, we cannot say that their jobs have shown a liability either to fall down or let in the weather. According to their lights, they undoubtedly gave value for the living they earned, and were acknowledged as the building experts of their day. The man of reasonable substance never dreamed of entering upon the adventure of house building by any other first step than that of the appointment of an architect. Nor, to be quite frank, did the architect expect to be consulted upon those "meaner exploits"—as they were then regarded—of cottage building or shop-front designs.

The essential points to remember, therefore, are that the architect of those days entered upon a profession of fairly distinct limitations, but with a fair knowledge that there was a living to be made if he did his job industriously and well; and that there was no question in the public mind that his calling was anything but an essential part of the social scheme. This comfortable certainty was the more remarkable in times when "artistic professions" among the lay public were seldom made, and criticism was limited to a very cultured few.

The education of the architect of those times was simple. He studied under the conditions under which he himself would practise. The things he was taught were those which would generally apply to his future experiences; and if any artistic direction entered upon his term of training it took the form of personal feeling imparted from the master to the pupil, rather than a share in a general movement. We can still trace the remnants of that personal influence in the second and third generation of pupils who have learned in this way.

When we say, then, that architectural practice in those days appeared to differ in no essential element from that of to-day, we must make the reservation that such a statement has only a superficial significance; and that we should be deeply concerned with the more fundamental differences which mark modern practice as compared with former conditions.

It is true that there is no difference in the professional claims, the aims, or the purposes of the two generations; but we may find it equally true that failure to recognise any change of conditions has done more to cripple the advance of architecture than any outside influence has brought about.

We have to ask ourselves: Are architects trained in the best possible way to meet the conditions with which they will be faced? Does the architect of to-day enter upon private practice with the same confidence of an assured future such as the solicitor and the doctor can generally count upon? Does the professional status of the architect stand high in the public mind? Is the modern architect as much a master of his job as was the late Victorian practitioner? Has the architect of to-day the same command of respect from the contractors he controls as had he of those other days? And, finally, whose fault is it, if the answers to these questions reflect to the detriment of to-day's conditions? Is the fault from within or without the profession?

It is the purpose of these articles to endeavour to discover where things have drifted off the track, and to conclude, if possible, whether we are to resign ourselves to the indifference of a defective generation, or to adjust ourselves afresh to new conditions which have had no prototype in history. The second of these alternatives is the only conclusion we can accept which gains opportunity for active remedy, since resignation may be another name for suicide.

We thus enter upon our analysis of modern private architectural practice, making it clear that it is the private practitioner who is under review. Those who seek escape from the problem by a pen-visioned Socialist State in which each diligent member is assured of a State salary may satisfy themselves with this dream of the future, of which some modern tendencies may appear as the shadow cast before it. For ourselves, we are going to assume that the best architecture is the free architecture of private practice—free in the spiritual sense, and taking care that it does not become free in a commercial sense.

(To be continued.)

"THE BUILDER" DEBATE

LXXXIII.—ARCHITECTURAL EDUCATION.

"That the architectural schools should be entirely remodelled to meet the needs of the future."

Sir,—Since the formation of the Board of Architectural Education, the subject which this body administers has become somewhat of a "watertight compartment," within the bulkheads of which outsiders make exploration at their peril. The results, I feel, must have been unsatisfactory, if there is anything in the rumblings of discontent emanating alike from practising architects and from the students themselves.

I do not wish to belittle the good work which has been done in the Schools, nor to suggest that the well-organised establishments which have been built up under favourable conditions should be thrown upon the scrap-heap. I do, however, want to express the widespread feeling that the product they are turning out year by year is not ideally suited to the conditions of modern practice.

The full school course is one of five years' duration, and specially suited for those who leave public or secondary schools at the age of seventeen or eighteen. The finished student is thus a young man of twenty-two or twenty-three; physically, and in many ways intellectually, mature; and old enough to be self-supporting and no longer a burden upon his parents. Up to that age, however, he has no prolonged experience of the actual working conditions of an architectural practice, and, beyond a few visits to works, and perhaps a few perfunctory weeks in an office during vacation times—if he is keen enough to work this in—his contact with architecture is entirely theoretical. His value as an assistant is thus very limited, and his chances of gaining experience by responsible trust must be deferred for still further years.

Compared with other professions, this appears to be a unique form of training, to which the medical student's experience in the wards and dissecting room stands out in marked contrast. I venture to say that this is a most unsatisfactory state of affairs, and that we have yet to experience the ill-effects of a full generation trained on those imperfect lines.

To arrive at a remedy, I think we have to recognise several things. The first is that, though the old system of articled pupilage worked well in many individual cases—probably in most—it contained the element of chance in too full a measure for us to revert to it as the right alternative without other assistance. The second is that we have well-equipped schools, and the full organisations surrounding them, which have the makings of useful instruments in the scheme of training. The third is that, whereas the middle-class burden increases in proportion to that carried by other classes of society, and whereas we do not want this burden to cut off from our profession many of its best recruits, we must devise a scheme whereby the intelligent young man of talent may reasonably anticipate independence of a modest type as soon as he comes of age.

I suggest that the architectural schools should be remodelled somewhat on the lines of the day technical schools, and should be open to boys of school age as soon as they are old enough to show signs of the right talent and inclination. If a boy could enter the architectural atmosphere at the age of fourteen without cutting himself adrift from his general education, he should be ripe to enjoy to the fullest extent a period of articled pupilage commencing at the age of seventeen.

Such a system should have endless advantages. The school structure could be maintained in full usefulness; the entry into the profession proper would be directly regulated by the number of vacancies available in architectural practices; and the surplus, if any, would be discovered at an age not too tragically advanced. I commend this suggestion to the appropriate authorities and await arguments against it.

Positive.

Australian Memorial to King George V.

The Secretary of the Incorporated Association of Architects and Surveyors has been officially informed that the design of the £15,000 bronze statuary group which the Australian Commonwealth Government has decided to erect in front of Parliament House, Canberra, as a King George V memorial, will almost certainly be offered to open competition within the Empire. The Commonwealth Parliament House is of white stone, carried out in severely simple form.

THE ARCHITECTURAL ASSOCIATION

"SOME 'SNAGS' IN MODERN BUILDING METHODS."

An ordinary general meeting of the Architectural Association was held on Tuesday evening at 36, Bedford-square, W.C., the Hon. Humphrey Pakington (President) being in the chair, and a lecture was delivered by Mr. John Wilson (Chief Architect and Housing Commissioner, Department of Health for Scotland), entitled "Some 'Snags' in Modern Building Methods."

The lecturer said that in recent years certain changes had been forced on the building industry. First, modern transport had led to a widespread use of what had previously been local materials, so that the craftsman was no longer expert in local technique for the use of those materials. An instance of the difficulty which arose in consequence was furnished by lime mortar. Secondly, the tendency of the present time was to "speed up" building operations. For this reason present-day technique might often require to be modified. Thirdly, the advance of science had given us new materials and new processes for which there was no traditional basis and experience to serve as a guide, so that a serious problem arose for architect and builder to discriminate between good and bad, and to discover the proper technique for using these new materials. Beyond all this was the fact that every material underwent some change when put into the building structure. In many cases these changes were so great and occurred so rapidly that failure was inevitable unless foreseen and provided against.

Roofs.

Dealing with structural problems, the lecturer said that the flat roof presented a number of difficulties which did not always receive the attention they required. The large enclosed air space under a pitched roof provided a useful insulation against heat losses from within during winter, and against the entry of the sun's heat in summer. Further, the pitched roof was normally erected on a structural framework of timber, which was relatively non-rigid in comparison with the reinforced concrete slab often used as a covering for the flat roof. When a flat roof was substituted for a pitched roof it was necessary to provide an additional thermal insulation represented by the air space under the latter and to make provision for the very much greater rigidity of the structural slab forming the flat roof. It must be realised that the roof was subjected to greater extremes of temperature variation than any other part of the building, and that with roofs of large extent those temperature variations resulted in movements such as might often lead to fracture of the supporting structure. Much could be done to alleviate those conditions by providing a light-coloured reflecting surface to throw off the sun's heat, but with roofs of large extent some form of expansion jointing was necessary in addition to surface treatment. Buildings where the roof slab was integral with the structural frame were less likely to be injured than those where the roof was on load-bearing brickwork or masonry, because the expansion of the slab was uniformly distributed in each bay of the frame, whereas with the plain masonry or brickwork support there was a tendency for the roof to slip and exert a cumulative thrust at the ends of the building. Furthermore, the requirements of the covering material for a flat roof were very stringent; it must be absolutely impervious.

Walls.

Speaking of walls, the lecturer said that recent tendencies in design had led to the increasing use of external cement rendering. It sometimes happened, when such a rendering was applied over brickwork containing a high proportion of sulphates, that the salts attacked the cement in the rendering. Then the rendering disintegrated completely and might ultimately peel off. In considering this type of failure the access of moisture must be remembered, and in all the disastrous failures of this kind investigated at the Building Research Station, there was a common feature of gross penetration of moisture into the brickwork. In no case did the more disastrous type of failure occur in the walls of a building with a good eaves overhang.

Another matter was that, in some forms of thin panel wall construction it was necessary to provide such a lining as would give adequate thermal insulation; but many of the fibrous materials which gave excellent insulation were most unsatisfactory backgrounds for plaster.

The use of cement concrete in the form of pre-cast units and monolithic elements with or without reinforcement was widespread, and it should not be forgotten that with concrete the volume changed with changes of moisture content. Delay in furnishing details often made it impossible for the unit to have sufficient time to be properly matured. The design of reinforcement to distribute shrinkage cracking was highly specialised work, but how many architects were really capable of supervising the distribution of the reinforcement?

Dealing with materials, the lecturer said that oxychloride flooring had been in use for years, but how many architects fully appreciated the danger of corrosion of metals due to the use of this material laid in contact with structural steelwork or with steel conduits for electric wiring?

Plasters.

In regard to proprietary plasters, numerous failures had been due to lack of knowledge of important characteristics, and, in addition, there were the frequent failures of applied decorations due to the application of unsuitable backgrounds. It was often assumed that one coat only of plaster was sufficient with reinforced concrete and proprietary partition slabs, but the results were often disappointing. Another source of trouble was the use of cement mortar for the repointing of old work The brick or stone sometimes failed in consequence. It should be common knowledge that a lime mortar basis was to be preferred with just a sufficient content of hydraulic material to ensure reasonable strength and endurance. Hydraulic limes suitably handled on a moderate gauging of Portland cement would probably give the all-round results desired for stone or brickwork.

Sound-insulation was a matter on which there was considerable confusion of thought. The most promising solution at present seemed to lie in obtaining the greatest possible structural discontinuity between the various elements. Good results had also been obtained by placing concrete slabs on small rubber pads resting on the main floor.

Specifications.

It must be realised that old forms of construction were the results of trial-and-error methods through the ages, and the traditional construction thus arrived at would have to be drastically altered if new and, in particular, synthetic materials were to be used in conjunction with traditional materials. The use in juxtaposition of old and new materials by workmen with traditional training might result in both major and minor failures. Architects should insist on all materials used in a building conforming with British Standard Specifications where these applied to the material in question; and it would help if they would also insist on all proprietary articles conforming with a known specification. It was sometimes advocated that an attempt should be made to define the proper sequence and time scheduling of building, e.g., the drying-out of plaster and cement, but it was almost impossible to specify any definite period because conditions varied so much on different jobs, while the weather made all the difference in the world. But even an elementary knowledge of the basic properties of materials would be very useful to architects. Increasing use should be made of the Building Research Station. When using data from building laboratories and craft workshops on the Continent, the architect should keep in mind the greater dampness of our own climate. Fog and smoke had a very considerable effect on the durability of certain materials.

In an endeavour to make more accessible some reliable information on modern materials and methods of construction, the Building Research Station had set up a committee representative of the various technical institutions interested in building to consider the problems, and the results of this investigation might be issued ultimately as "Notes on Building Materials and Construction," intended to serve not only as a guide on building work, but also to provide an introduction to the science of the subject.

Concluding, the lecturer said that the rush methods imposed on architects to-day were very largely responsible for failures of all sorts, and this difficulty would have to be surmounted by a changed technique of building practice.

Discussion.

Mr. A. Scott (Chief Technical Officer for Building and Town Planning, Ministry of Health) proposed a vote of thanks, saying that a friend had told him that if he had a building in prospect he would go to the oldest architect and the oldest builder, and refuse to have any materials used of which there was less than one hundred years' experience. The troubles of which the lecturer had spoken were not confined to young and inexperienced architects: old and thoughtful men also suffered from them.

Mr. L. H. Bucknell, seconding the resolution, said that the very high factor of safety usual in building prevented disasters that might otherwise occur. Many troubles were due to materials being exploited by people with no knowledge of building.

Major Singleton said that architects should test new plaster finishes thoroughly before using them, or else use something they were familiar with.

Mr. Zaiman said that before using a new invention or proprietary material the architect should think of all the possible things that might happen. In cottage construction one should go slowly on traditional lines, but in the case of modern flats new methods and materials were indispensable.

Mr. J. H. Leaning said want of foresight and want of preparation was the principal cause of trouble. We should copy America in making preparation months in advance. Moreover, a big job could not be carried through satisfactorily without a progress chart showing where everything was to start and finish. Once the start had been made on an expensive site it was necessary to hurry; hence speed was the order of the day.

Mr. C. J. Morreau said that adventurous architects had probably got into more trouble than conservative ones, chiefly owing to the fact that our knowledge of new methods and materials was imperfect, but the architect should not be afraid to try the new things.

Mr. J. W. Stephens said that new materials were chiefly used for the sake of cheapness. The average building owner expected to get a ten thousand pound building for five thousand pounds, and was unwilling to give sufficient time for his building to be erected.

Mr. L. W. Thornton-White said he had had failures with plasters and had written to the Building Research Station for advice. In reply he had received a long scientific letter which he had not understood, accompanied by a short personal note: "The way to arrive at good plaster work is to find out from your local builder what sort of plaster he loves using. Tell him to use that, and you will get good plaster work."

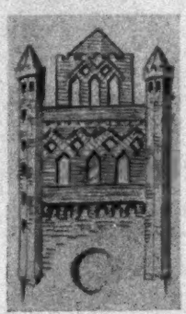
Mr. D. Bethune Williams said that flat roofs had been mentioned. Among their other difficulties was that of getting flues to draw when passed through a flat roof. The chief difficulty of one coat plaster work was that plasterers hated the sight of it, and would not take trouble with it.

The lecturer having briefly replied, the vote of thanks was heartily accorded.

TOULOUSAIN TREATMENT OF BRICKS

By E. TYRRELL-GREEN.

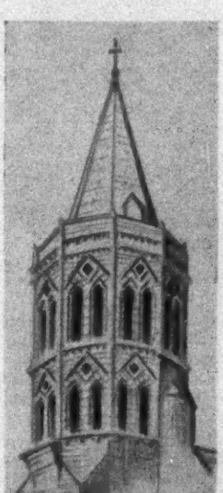
NOWHERE has the available local material given a more marked character to the architecture of a district than in the old Province of Languedoc, whose capital was Toulouse. In the city of Toulouse itself the prevailing building material is brick, the bricks employed being large and thin, like tiles, as though deriving their form from those of the old Roman city of Tolosa. The resulting warm red colour of the place has earned for it the name of "La Ville Rose." A structure all of stone was of such rare occurrence here that the seventeenth-century mansion of M. de Clary, built entirely in stone, is known in the city as the 'Hôtel de Pierre."



EGLISE DE TAUR, TOULOUSE.

The adaptation of brick construction to the forms of Gothic architecture led to some peculiar features of design characteristic of the district, and most prominent of these is the form assumed by tower-lights or belfry-openings. These have straight-sided arches, so that they are triangular-headed, such form of arch being the simplest to construct with flat bricks. An arch of the same form in the like material of Roman brick may be seen in the west doorway of Holy Trinity Church, Colchester, in this country. These Toulousain lights are very commonly grouped in pairs, with a lozenge-shaped opening above, the group thus formed being contained within an enclosing arch of straight lines. Lights of this type are regularly found in either class of the remarkable belfries belonging to the district.

(1) The typical Toulousain bell-tower is octagonal in plan, somewhat slender in its proportions and composed of a relatively large number of rather short stages, each stage having the characteristic coupled light on each



LISLE-SUR-TARN.

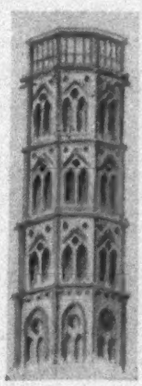
face. In Toulouse the type is represented in the grand central tower of St. Sernin by the two upper ones (fourteenth century) of its five stages, the lower ones being of normal Romanesque design, and by the fine lateral towers of the churches of the Jacobins and of the Augustins (the latter now a museum). The surrounding district abounds in octagonal brick towers of like design, as at Grenade,

VILLENOUVELLE.

St. Felix-de-Caraman, Lisle-sur-Tarn (Tarn), Rieux, Martres, Muret, Avignonet (Haute Garonne), St. Jacques Montauban, Beaumont-de-Limagne, Caussade (Tarn et Garonne), St. Lizier, Pamiers (Ariège), and Castelnaudary (Aude), and one finds an outlying example at Millau (Aveyron).

The normal finish to these towers was a blunt spire springing from within an open parapet, but a few lack the parapet, like Lisle-sur-Tarn, and several are without the spire, which is wanting at the Jacobins and the Augustins (truncated) at Toulouse, as well as at Rieux, and in the Ariège examples of St. Lizier and Pamiers.

(2) The same local type of opening is seen in the other chief class of belfry in the dis-



RIEUX.

trict. Often the belfry takes, in this locality, the form of a high brick screen, or extension of the wall upwards, in which openings are pierced for the bells, the whole composition being flanked by turrets. A good instance of this style is raised above the façade of the Eglise-du-Taur at Toulouse (with two tiers of bells, and other examples occur at Montgiscard, Caignac, Villefranche (two tiers of bells), Baziège and Villenouvelle (three tiers).

These *clocher-murs*, as they have been named, are in many cases machicolated at one or more stages, evidencing that they were intended as defensive works, and there are some notable examples, in this same neighbourhood, of complete fortified churches built entirely in brick, such as Montesquieu-Volvestre (Haute Garonne) and Rabastens (Tarn), whose stern façade presides over the little town precariously piled on the precipitous bank of the Tarn. The strange brick church at Simorre (Gers) is perhaps the best extant example of a church militant in the most literal sense.

In a land of so much brick building it is natural to find decorative detail sometimes executed in terra-cotta, and Toulouse furnishes some attractive examples of the kind. The *Petit Cloître*, or *Cour Renaissance*, of the Augustins has delicate reliefs in terra-cotta, of date about 1625, above its arcade, and the tympanum of the portal of the Eglise d'Albade has a very beautiful coloured relief of the Coronation of Our Lady by the Toulousain ceramic artist, Gaston Virebent.

FURNITURE, PAST AND PRESENT

FOLLOWING upon Mr. Ernest Hawking's valedictory lecture as Curator of the Geffrye Museum on March 5, on "Looking Backward: Furniture of the Past," in which he dealt with the influence of material on design and construction, showing how the introduction of new, more difficult woods called for new tools, which in turn brought about new methods, with advance in quantity and quality of output, Mr. Percy A. Wells, on March 12, discussed "Looking Forward: Furniture and the Future." His outlook, he said, was hopeful, for on balance he thought we might expect evolution rather than revolution, though present tendencies might appear alarming, causing us to wonder how far elimination and simplification would go. The difference in furniture of fifty years ago and that of to-day was vast, and had been brought about partly by new materials and machinery, partly by new ideals. When good lines and balance were preserved, simplification, reduction in size and weight were all gain, but might be carried too far when wardrobes, sideboards and bookcases were reduced to mere ghosts of the general conception of such things. Both laminated board and plywood had made many things possible, and would, no doubt, bring about more changes in the future. Large surfaces, as in tables, of a decorative value, could be carried out with laminated board, while plywood made curves of a complicated character easy. But there was the danger that plywood, as with steel tubing, might encourage geometrical gymnastics. Then, again, if we had got rid of fussiness in carving and other applied ornament, there was the risk, having many beautiful cheap veneers at hand, of introducing too great contrast in patterns of such veneers. Wardrobe doors and table tops could be made to look like patchwork, which was quite as disturbing as over-elaboration of carving or other detail. In chairmaking, plywood gave wonderfully comfortable, one-piece backs and seats, but the use of continuous, curved arms and supports, not always brought again to the back, was often ugly and gave a painful impression of insecurity.

Steel tubing, as at present handled, was also apt to produce the effect of instability, and it looked cold. This coldness, and lack of interest, was also characteristic of glass, moulded or otherwise, used in construction of tables, bookcases and other pieces of furniture. But it had colour, and could be given texture, while its nature permitted curious effects to be obtained with indirect, internal illumination. The newer kinds of "armour" and pliable glass must undoubtedly be taken into consideration as regards furniture of the future. Another material, only tentatively used so far, was "plastics" in its many forms. These could be used as sheets, rods, tubes or moulded material. "Bakelite" and others possessed qualities which made them tempting for certain purposes.

Making all due allowance for certain advantages in some of the new materials, the lecturer said he believed in the interest, beauty and warmth of varied colour to be found in wood. He quoted with approval the prophecy of a living artist, who said that before long we should witness a revolt against extreme modernism in painting in favour of classical traditions, which would in turn influence decoration, then architecture and furniture.

The lecturer acknowledged the influence of the architect, particularly in relation to built-in furniture, which, he said, was a decided gain to the house-dweller, if a loss to the cabinet-maker.

SOCIETIES AND INSTITUTIONS

R.I.B.A.

Election of Members.

At a Council meeting of the R.I.B.A. held on Monday, March 9, the following members were elected :—

AS HON. CORRESPONDING MEMBERS.

D. E. Arkin (Moscow). N. Colley (Moscow).

AS FELLOWS.

H. W. Cash (London).
S. Dawe (Watford).
E. B. Musman (London).
K. B. Mackenzie (Bibury, Gloucestershire).
A. C. H. Stillman (Stafford).

AS ASSOCIATES.

G. Arthur (Glasgow Sch. of Arch.) (Airdrie).
W. W. Atkinson (Dept. of Arch., Northern Poly. (London) and A.A. (London)).
C. R. Beecroft (Portishead, Somerset).
H. A. Bowen (Twickenham, Middlesex).
G. B. Bradley (London).
A. Brooks (Stalybridge, Cheshire).
S. T. Brown (Liverpool).
L. H. Burnett, B.Arch. (Sch. of Arch., Univ. of Lvrpl.) (Liverpool).
G. McD. Chasser (Leicester).
T. J. H. Colclough (Kidsgrove, Stoke-on-Trent).
A. E. Cooper (Flixton).
L. W. A. Cooper (Leicester).
L. B. H. Cremer (Sittingbourne, Kent).
J. Douglas (Sch. of Arch., Edinburgh Coll. of Art) (London).
A. Dumble (Sutton, Surrey).
W. J. H. Dungey (Plymouth).
L. S. Dyer (Westcliff-on-Sea).
A. V. Elsey (A.A.) (London).
Miss C. R. Epps (A.A.) (London).
N. H. Fowler (Leeds).
E. L. Fox (Yeovil, Somerset).
M. D. Furniss (A.A.) (Woodford Green).
W. B. Galloway (Bartlett Sch. of Arch., Univ. of London) (Selsdon, Surrey).
P. Gerrard (Nottingham).
D. R. Gillam (Sutton, Surrey).
G. I. Goulden (Bartlett Sch. of Arch., Univ. of London) (London).
T. C. G. Hicks (London).
E. L. T. Hoare (Twickenham).
E. A. S. Houfe (Bedford).
E. Hough (Altrincham, Cheshire).
H. Jackson (London).
D. A. Jones (London).
A. B. Kerr (Sch. of Arch., Edinburgh Coll. of Art) (Edinburgh).
W. H. Kwan (A.A.) (London).
D. A. Lee (A.A.) (London).
W. L. Lowry (Southport).
E. D. Lyons (London).
E. E. M. M'Caughan (Lvrpl. Sch. of Arch., Univ. of Lvrpl.) (Belfast).
R. H. Mann (Leeds Sch. of Arch.) (Leeds).
H. A. Metayers (Dover, Kent).
T. E. North (Barking, Essex).
R. G. Parker (Lvrpl. Sch. of Arch., Univ. of Lvrpl.) (Norwich).
H. L. Pitt (London).
J. A. Powell (Sch. of Arch., Cambridge Univ. and A.A.) (Torquay).
H. D. Priestman (Hull).
G. F. Ransom (Lvrpl. Sch. of Arch., Univ. of Lvrpl.) (London).
N. L. Reece (Southsea, Hants).
J. G. Reid (Clevedon, Somerset).
F. H. Riedon (Dept. of Arch., Northern Poly. (London) and A.A. (London)).
A. F. Russell (London).
H. Short (Kew Gardens, Surrey).
R. R. Siggers (Leicester).
H. J. A. Somjee (Dip.Arch. (Lond.), Bartlett Sch. of Arch., Univ. of London) (London).
F. Stower (Dorking, Surrey).
A. Sutton (London).
E. Taberner (Chester).
E. Taylor (Carlisle).
A. A. Thomas (London).
G. C. Timmis (Lvrpl. Sch. of Arch., Univ. of Lvrpl.) (London).
D. C. Townsend (Cheshire).
N. Tweddell (London).
E. J. Weir (Edinburgh).
F. G. West (London).
N. E. G. Weston (Birkenhead).
C. S. Whatmore (Kingston-on-Thames).
N. Wheatley (Blackburn).
E. P. Wilson (St. Albans).
R. J. Wilson (Nottingham).
L. Wood (Derby).
L. J. Young (London).
R. McP. W. Young (Troon, Ayrshire).

AS LICENTIATES.

M. Cowen (Johannesburg).
P. B. Durey (Sunderland).
H. J. Edgington (Abingdon, Berks).
A. B. S. Fryer (Wirral, Cheshire).
F. C. J. Smith (Northampton).
C. F. J. Thurley (Paignton)

YORK AND EAST YORKSHIRE ARCHITECTURAL SOCIETY.

Annual Dinner.

The annual dinner of the York and East Yorkshire Architectural Society was held on Friday, March 6, at the Royal Station Hotel, Hull. The chair was occupied by Mr. Harry Andrew, F.R.I.B.A., President of the Society.

Mr. Percy E. Thomas, P.R.I.B.A., was the chief guest, and others included the Lord Mayor of Hull (Alderman Frederick Till), the Sheriff (Mr. J. Cyril Townsley), Sir Ian MacAlister, Councillor S. H. Smith (chairman of the Architectural Advisory Committee), Alderman W. C. Holwell (chairman, Works Committee), and Messrs. G. McLean Gibson (president, Hull Guild of Building), S. I. Heiman (principal, Hull College of Art and Crafts), R. T. Cotterrill, A.R.C.A. (principal, York School of Art and Crafts), W. Elwell, A.R.A., J. Watson, D. Harvey (City Architect), R. C. Moore (Director of Education), L. Kitchen, K. Ward, J. S. Syme, F. J. Horth (past-presidents), Brevet-Colonel C. D. Allderidge, C. Lockenby, C. W. C. Needham (vice-presidents), H. Ashley Cooper, Councillor A. Cargill, Councillor Robert G. Tarran, Messrs. E. Quibell, R. Jackson (hon. secretary), and E. A. Polland (hon. treasurer).

The Chairman, proposing the toast of "The Royal Institute of British Architects," said that during its 100 years of existence it had grown steadily, and at no time was there greater need for such a representative body. In recent years complaints had been made regarding the extraordinary amount of building work executed without the services of qualified architects, and he felt that they themselves must take a large portion of the blame. What had they done to cultivate in the minds of the general public—potential clients—a taste for good architecture, or even a slight appreciation of good architecture? Steps were now being made in the right direction, however, for arrangements had been made by a number of Allied Societies to give periodical lectures in secondary schools. There was also a lack of knowledge in regard to the duties of an architect. His work was not to make pretty pictures, but essentially to plan. We ought not to find large housing estates being developed out of public funds by the sanitary inspector. Town-planning schemes should be prepared by the man who was trained in the art of planning—the architect—not by the man whose mind ran in a mathematical groove. By good planning and a knowledge of up-to-date materials it was possible for the architect to save industry not only capital outlay, but repair and maintenance charges. Further, an architect could render considerable assistance to those members of the community who often vied with each other in their haste to present the jerry-builder with their hard-earned savings. Architects might be of assistance to the civic authorities. They in Hull had an excellent official department, the majority of the staff being Associate members of the R.I.B.A., but the private architects did ask for just a small share of the vast amount of work to be carried out. In many large centres private architects, in rotation, were commissioned by the local authority to design and supervise the erection of a proportion of their building projects, or alternatively competitions were held under regulations of the R.I.B.A., thus giving a chance to all members of the profession. The speaker condemned jerry-building as a menace to the building trade in general, and to the conscientious contractor in particular, and expressed the hope that shortly there might be introduced a national standard specification.

Mr. Percy Thomas, responding, said that if the architecture of the country were to be improved—and by that he meant not only housing schemes, but buildings in towns and cities as well—they must see that only qualified architects did the job, for which they had been trained. It was amazing the millions of pounds being spent on building work executed without the services of a qualified architect. Referring to recent reports concerning the lack of interest in art, he said his view was not so pessimistic. He felt that the so-called modern movement, bad as it was in many ways, had had the effect of causing the ordinary lay person to take an interest in design, form and colour. Architectural societies could do good by lectures, exhibitions, etc., thus encouraging people to be interested in architecture. Public authorities could also do good by using the local societies. There were no professional bodies more willing to give their services freely in the public interest. With a return of a certain amount of prosperity there was no need to go on putting up public buildings at the cheapest rate at which it was possible to build them. In Italy there was a law that for every public building not only must a qualified architect be employed, but also artists and sculptors.

The toast to "The City and County of Hull" was proposed by Brevet-Colonel Allderidge, who referred to the chances the citizens had had of obtaining a Humber bridge, and of the opportunity to banish the level-crossings—chances which had not been accepted.

The Lord Mayor, in response, said he thought Colonel Allderidge had been a little pessimistic. He was proud of Hull, and believed its best days were yet to come.

I.A.A.S.

London Branch's Annual Dinner.

The annual dinner and dance of the London and Home Counties Branch of the Incorporated Association of Architects and Surveyors took place at the Park-lane Hotel, Piccadilly, on March 13. The chair was taken by Mr. E. W. Brown, F.I.A.S. (chairman of the branch), and among those present were Viscount Mersey, C.M.G., C.B.E., Sir Robert Tasker, M.P. (vice-president, I.A.A.S.), Sir Harold Bellman, Mr. J. E. Swindlehurst, M.A., F.I.A.S. (chairman of council), Mr. Victor S. Peel, F.I.A.A. (vice-chairman of council), Major G. B. J. Athoe (general secretary, I.A.A.S.), together with about 150 members and their guests.

Mr. Victor Peel proposed the health of the guests, and Sir Harold Bellman, in responding, said that it gave him much pleasure to be present as both he and those at the dinner had a common interest.

Lord Mersey, in proposing the health of the branch, which, he said, had some eight hundred members, intimated how pleased he was to be present in order to pay tribute to such an active body, who not only forwarded the interests of the Incorporated Association, but of the professions as a whole, if only for the lectures which they held.

LONDON BUILDING ZONES

The L.C.C. on Tuesday adopted a recommendation by the Town Planning and Building Regulation Committee for putting into effect the Council's powers under the Town and Country Planning Act, 1932, to control the height of buildings in London. The scheme was given in detail in *The Builder* for March 13. It provides for dividing the County of London into three zones, in each of which maximum heights shall be prescribed for different sorts of buildings. The heights for dwelling-houses, other residential buildings, and commercial and industrial buildings would be 60 ft., 80 ft., and 100 ft. respectively in zone 1; 40 ft., 60 ft., and 80 ft. in zone 2; and 40 ft., 40 ft., and 60 ft. in zone 3.

Mr. H. Berry, submitting the report, emphasised that the heights inserted in the scheme were not cast-iron maxima. Anyone could go to the Council and make an application. He hoped that statement would do something to remove some of the misconceptions that seemed to be abroad.

Sir Robert Tasker, opposing the proposals, said that they were an attempt to carry out a policy which had done, and was doing, great damage, and that was due to the activities of well-meaning people without any practical knowledge of building. It was notorious that the way in which the Town Planning Act was being operated was becoming a menace to the building industry in London. Millions of pounds worth of work was being stopped. He had been challenged to prove that. He had had calculated the number of rooms involved in 96 refusals of the Council in connection with one type of building work only—flats. Ignoring 30 blocks of flats where the number of rooms was not set out he computed that 15,000 rooms were involved. At £150 per room it would be seen that millions of pounds worth of work had been stopped by the committee. It was playing the fool with the expenditure of millions of money and the operations of those who depended upon the building trade for their existence.

Mr. E. P. Martin said that anything which would facilitate the getting through of applications was to be welcomed. He felt that the report was a step forward. People would now know where they stood.

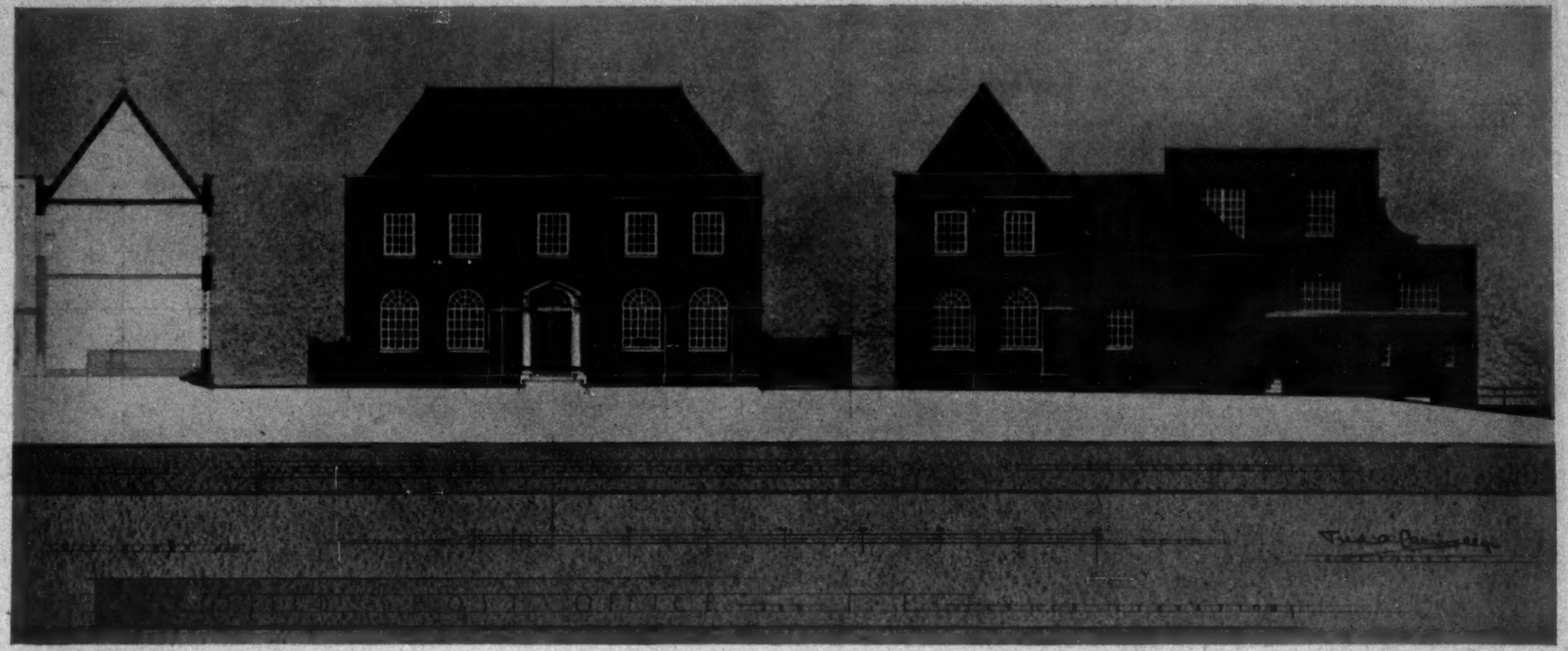
Mr. H. Berry, in reply, said that where applications had to be refused because they were not in accordance with town-planning principles the Committee were helpful, and indicated on what lines further applications would be considered. It was seldom that there was an absolute refusal.

The recommendations were carried.

COMPETITION FOR NEW COUNCIL OFFICES, HARROW: Perspective of Winning Design.

MR. VERNER O. REES, F.R.I.B.A., Architect.

(See page 590.)

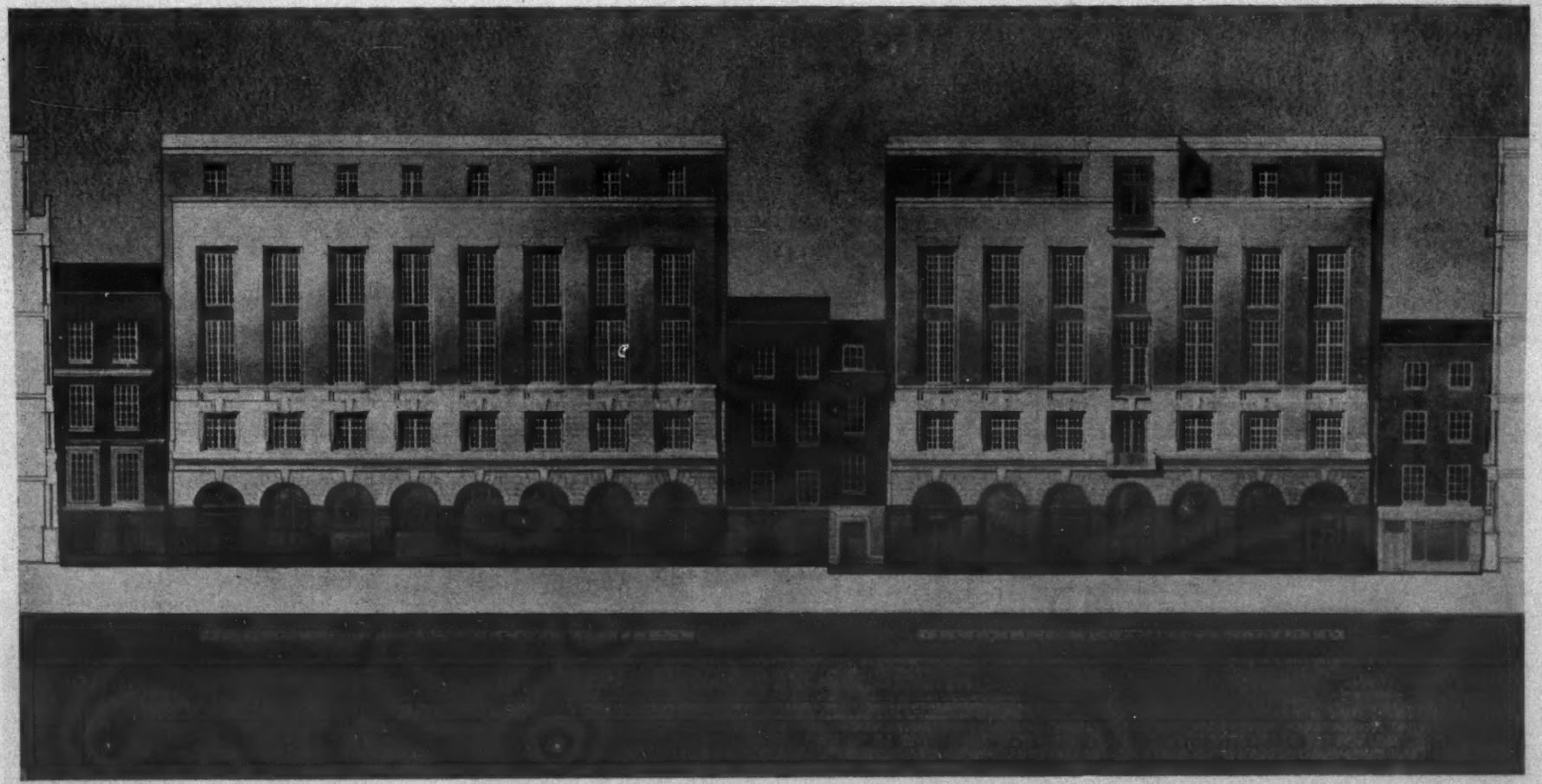


R.A. Exhibition, 1935.

HATFIELD POST OFFICE AND TELEPHONE EXCHANGE.

MR. F. A. LLEWELLYN, O.B.E. (H.M. OFFICE OF WORKS), Architect.

(See page 590.)



R.A. Exhibition, 1935.

GERRARD STREET NEW TELEPHONE EXCHANGE AND POST OFFICE, W.

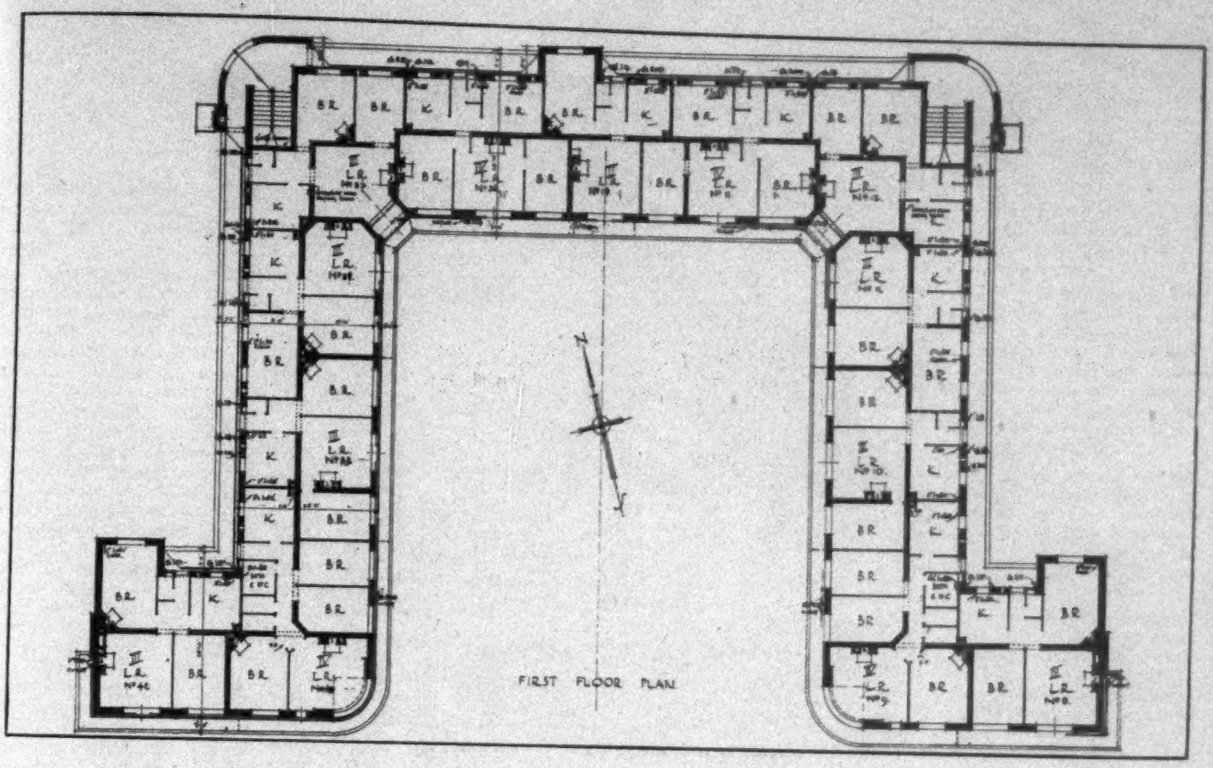
MR. F. A. LLEWELLYN, O.B.E. (H.M. OFFICE OF WORKS), Architect.

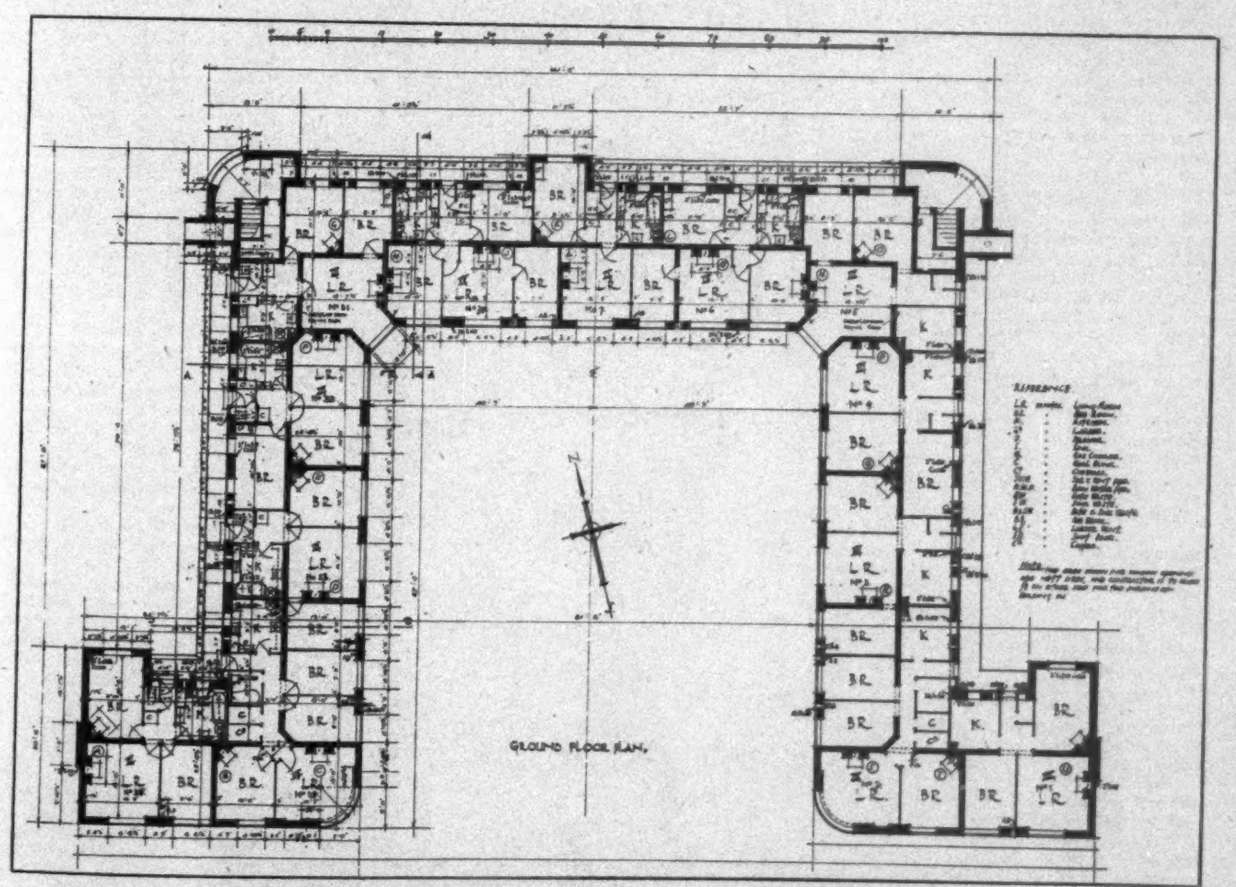
(See page 590.)

NEW L.C.C. FLATS, OAKLANDS ESTATE, POYNDERS ROAD, CLAPHAM PARK.

MR. E. P. WHEELER, F.R.I.B.A., Architect to the London County Council.

(See page 590).





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MR. E. P. WHEELER, F.R.I.B.A., Architect to the London County Council.

(See page 590.)

"VICEROY COURT," REGENT'S PARK, N.W.

MR. C. BERESFORD MARSHALL, F.R.I.B.A. (Messrs. Marshall and Tweedy), Architect.

(See page 590)

THE WHITEHALL BUILDING SCHEME.

THE following particulars relating to the proposed new Government Offices in Whitehall have been issued by the Office of Works :—

THE ADMINISTRATIVE PROBLEM. — The growth in the activities of Government since the War has led to an unavoidable increase in the staffs of Government Departments, and has made the problem of housing those Departments progressively more difficult. It is essential that the greater part of the new administrative staffs—those of the Ministry of Labour, of the Ministry of Transport, of the greatly enlarged Ministry of Health and Board of Trade—should be housed as near as possible to the centre of Government in Whitehall, since all are dealing with matters which require the constant supervision and attention of Government and Parliament. It is equally desirable that the Air Ministry should be housed in such a position that easy and constant intercourse can take place between its staffs and those of the Admiralty and War Office, the Colonial Office, the Foreign Office and the Cabinet Office.

The Government have decided that it is essential, if ease and efficiency of administration and economy in organisation and staff are to be achieved, that the Air Ministry, the Board of Trade, the Ministry of Labour and the Ministry of Transport, whose staffs at present number some 5,250 in all, should be rehoused in compact and modern offices in a central position. The only way in which this can be done is the erection of a new block of Government offices. It is hoped that this will be large enough to contain these four large Departments, and possibly a smaller one, but the final allocation of accommodation must depend upon the accommodation problems then existing when the building is finished.

(*a*) The Air Ministry has staffs in no fewer than eight separate buildings. The main body of the staff is in hired offices in and around Kingsway, which is too far from Whitehall for that constant and close liaison between the three Defence Departments which is essential, particularly in time of emergency.

(*b*) The Ministry of Labour is housed in seven sets of premises. The centre is at Montagu House, Whitehall, and the semi-permanent bungalows surrounding it, but there are large staffs at some distance. The Ministry has a large body of staff, engaged upon routine work, satisfactorily and economically housed at Kew, and it is not proposed to bring this staff into the central area.

(*c*) The Board of Trade headquarters staff is housed in three different buildings. There are also various outlying divisions, such as the Patent Office, the Bankruptcy Department and the Standards Division, which are suitably and conveniently housed at present, and which need not be brought under the same roof as the headquarters of the Board. These headquarters are in the New Public Offices, which were never intended to contain more than three large Departments. At present they contain four—the Ministry of Health, the Board of Education, the Office of Works and the Board of Trade. Before the War it was intended to build new offices for the Board of Trade in Whitehall-gardens, but this scheme was stopped by the War and the Board was brought into the New Public Offices. The staffs of all the Departments in those offices have increased in size.

(*d*) The Ministry of Transport occupies old dwelling-houses in Whitehall-gardens.

The estimated cost of the new building is £1,750,000. It is anticipated that it will accommodate 5,360 Civil Servants, as compared with 1,185 housed on the site at present. When the building is ready for occupation, hired premises held at rents amounting to approximately £125,000 per annum will be surrendered, and the Government will then be in occupation of a modern building costing, in terms of interest and sinking fund, charges for site and building, substantially less than the rentals so surrendered.

THE SITE.—The site chosen for the erection of the new offices comprises Whitehall-gardens and Montagu House. A part of the site is already vested in the Office of Works and the remainder forms part of the Crown Estate in London.

Before the War the intention of the Government was to erect a block of offices on the Whitehall-gardens part of the site only, Montagu House being then in the personal occupation of the Duke of Buccleuch. During the War the house was requisitioned for Government offices, and the Crown lease was subsequently bought by the Office of Works. The need for new offices has now grown to such an extent that it is necessary to build over the site of Montagu House as well as that of Whitehall-gardens.

The Public Offices (Sites) Act, 1912, laid down a building line on the Embankment side of the Whitehall-gardens site roughly continuing the line of Whitehall-court, and this building line has been adopted for the whole of the site. The Embankment front of the offices will be parallel with the Embankment wall, though on the line of the existing buildings of Whitehall-court, and the ground between the building and the Embankment road will eventually be laid out as gardens.

On the Whitehall front the building will be roughly parallel with the main front of the Treasury, but will be set back some distance from the street, so that the Banqueting House, the Royal United Services Institution and Gwydyr House will not be affected. Some annexes of no architectural value at the back of Gwydyr House will be removed. Beyond Gwydyr House, on the south side, the huts which at present detract from the dignity of Whitehall will be removed, and another and larger garden will be laid out between the new offices and Whitehall. Every effort will be made to retain as many of the existing trees as possible, and the "green break" in Whitehall will be preserved.

On the Horse Guards-avenue front the new building will be set back, and the roadway widened throughout its length, the minimum width being 76 ft., including pavements. This is in accordance with the wishes of the Westminster City Council and the Ministry of Transport.

On the Richmond-terrace front a new road will be formed opposite Downing-street, leading from Whitehall to the Embankment. This will be a private road, not a public thoroughfare, and will be used solely for access to the new offices and Richmond-terrace. The distance, including roadway and pavements, between this front of the new building and any new offices which may take the place of the Richmond-terrace houses will be 80 ft.

All these questions of alignment, frontages and roadways have been discussed at length with the Royal Fine Art Commission, the London County Council, the Westminster City Council and the Ministry of Transport.

THE BUILDINGS NOW ON THE SITE (see the L.C.C. Survey of London, Vol. XIII. (Batsford, 1930)).—Some of the buildings at present on the northern or Whitehall-gardens end of the site contain features of architectural or archæological interest. Notable among these is the vaulted undercroft to Cromwell House, on the Horse Guards-avenue front. This was built by Cardinal Wolsey, and formed part of the town house of the Archbishops of York, later incorporated in the Palace of Whitehall. The undercroft was in use in 1670 as the Royal wine cellar. The new building has been so designed as in no way to disturb the undercroft, which will be carefully preserved and repaired.

Pembroke House, which is occupied by the Ministry of Transport, was built soon after 1757 to the designs of Sir William Chambers, the architect of Somerset House. It contains a good deal of fine plaster work and panelling and a staircase with a fine wrought-iron balustrade, also some good chimneypieces. This work will be removed and preserved as far as possible in the new building.

It is possible that, in the course of the work, interesting fragments of the Palace of Whitehall may come to light. A complete survey will be made of any such fragments and the advice of the Chief Inspector of Ancient Monuments will be followed in dealing with them.

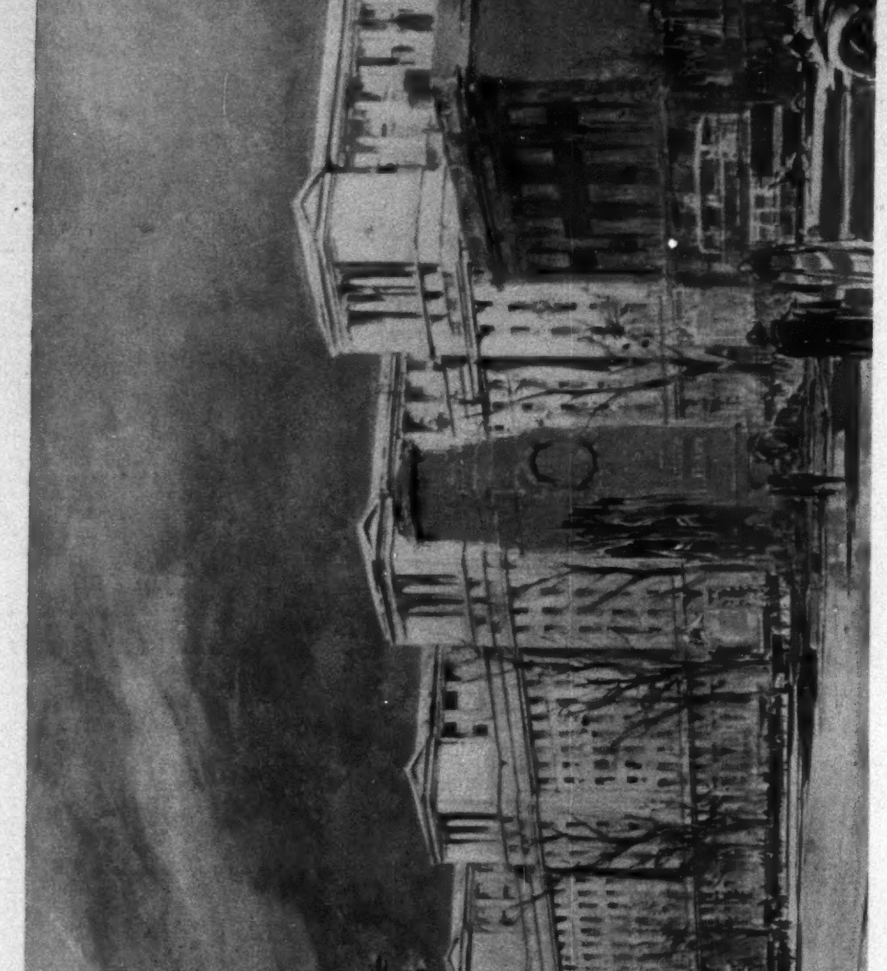
THE ARCHITECT.—For a great new block of Government offices situated in the very heart of the site of the historic Palace of Whitehall the greatest care in the choice of the architect was necessary. For the smaller scheme before the War, an open competition was held and the commission was awarded to Mr. E. Vincent Harris, O.B.E., F.R.I.B.A. The Government decided that the Council of the R.I.B.A. should be asked to submit a list, from which the architect for the new and larger scheme could be selected by a committee consisting of the First Commissioner of Works, the chairman of the Royal Fine Art Commission for England and Wales, the Chief Architect of H.M. Office of Works, the President of the R.I.B.A., and the President of the Royal Academy. This procedure was followed, and the choice again fell upon Mr. Vincent Harris, who, since he won the competition of 1914, has had much experience in designing other public buildings.

THE DESIGN OF THE BUILDING.—Mr. Vincent Harris was appointed in January, 1934, and since that date has been engaged upon the development of the sketch plans and elevations of the new building. He has worked in close collaboration with H.M. Office of Works. The Royal Fine Art Commission and the L.C.C. have been consulted at every stage.

Much careful thought was given to the form of the building, and it was finally decided that the limitations of the site made it necessary, if so large a body of civil servants was to be housed in proper conditions as regards light and air, that the plan should be adopted of a single block with three large internal courts. The length of the building, from Horse Guards-avenue to Richmond-terrace, will be about 550 ft. The greatest breadth at the Horse Guards-avenue end will be about 300 ft. The building will taper down to its least breadth at the Richmond-terrace end; this will be about 205 ft. The building will contain eight main stories above the basement, and the height to the main wall head will be about 87 ft. The two transverse blocks at the ends and the transverse blocks between the internal courts will be carried up a further three stories, to a total height of about 128 ft. to the ridges of the roofs. This will give the effect of four equally spaced attic features on the two long façades towards Whitehall and the Embankment. On these two façades there will, in addition, be one story set back 10 ft. and rising to a height of about 6 ft. above the main wall head between the attic features.

The elevations have been so designed as to preserve the dignity of the neighbourhood without incorporating in any way elaborate or extravagant architectural details. The external façades will be faced throughout with Portland stone.

(*Continued on back page.*)



DESIGN FOR NEW GOVERNMENT OFFICES, WHITEHALL, S.W.

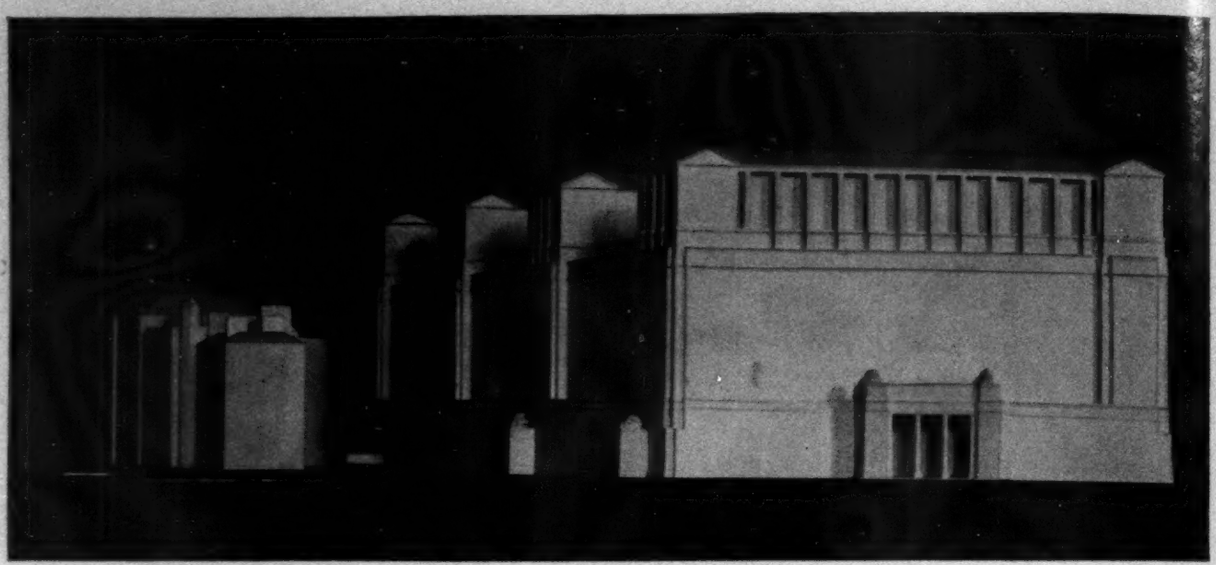
MR. E. VINCENT HARRIS, Architect.

ELEVATION TO HORSE GUARDS AVENUE

ELEVATION TO VICTORIA EMBANKMENT

DESIGN FOR NEW GOVERNMENT OFFICES, WHITEHALL, S.W.

MR. E. VINCENT HARRIS. Architect.



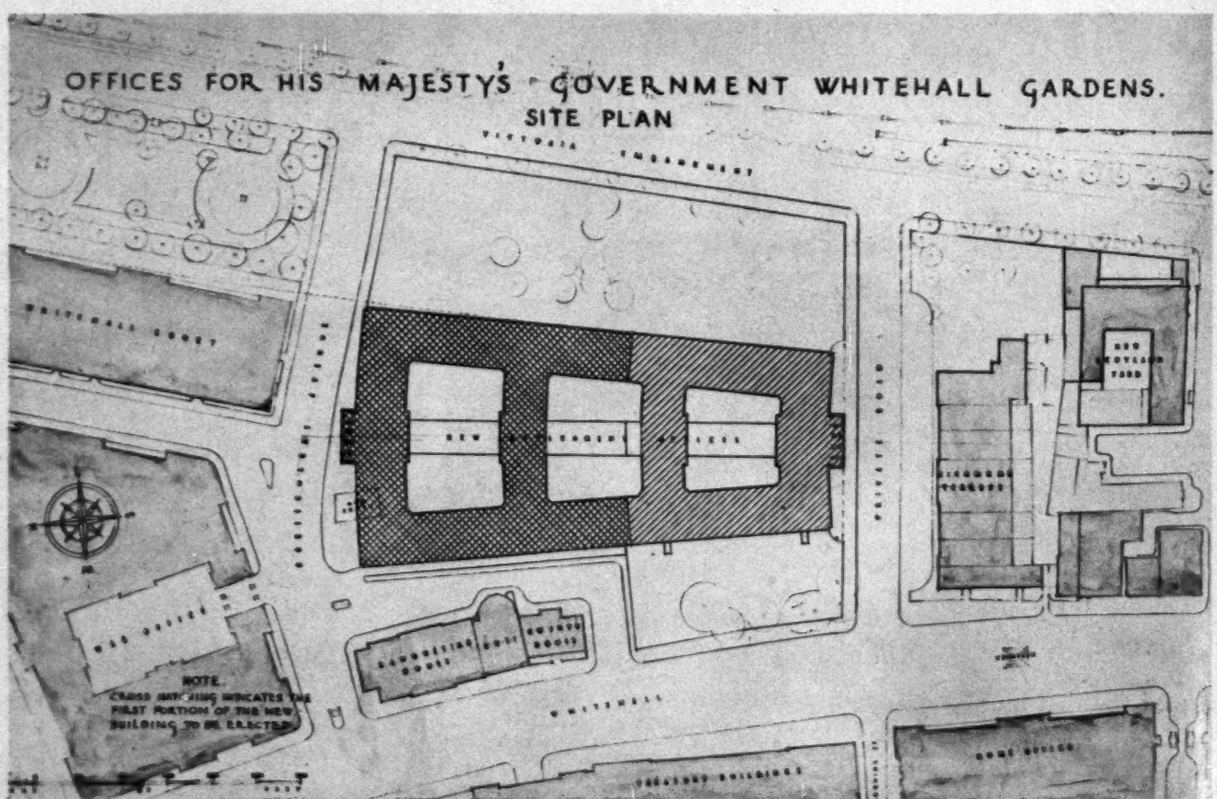
MODEL OF BUILDING SHOWING ELEVATIONS TO WHITEHALL AND NEW ROAD.

Internally, the same principles will be followed. There will be no elaborate or unnecessary decoration. The building, which will be erected on a steel-frame principle, is so planned as to make the most economical use of the site for the purpose for which it is designed—the housing of large numbers of civil servants. There will be adequate arrangements for providing lunches for staffs by means of a restaurant in the basement.

The main entrances to the building will be in the Horse Guards-avenue and Richmond-terrace frontages between Whitehall and the Embankment. A broad corridor will stretch the length of the building between these two entrances, and the lifts and staircases to the various departments and floors will be reached from this corridor.

There will be no open fires in the building, which will be heated from a central boiler house, placed underground between the western front of the building and the rear of Gwydyr House. The chimney stack will be invisible from outside. Planned in conjunction with the boiler house, there will be an underground service yard for supplies to the building. All floors of the building will be served by goods lifts from this yard, access to which for vehicles will be by way of an inclined roadway leading down from Horse Guards-avenue close to the western front of the new building. The main entrances will thus be kept clear of vehicles delivering goods and fuel.

ERECTION OF THE BUILDING.—The building will be erected in two sections, the first section covering Whitehall-gardens, and the second section, which will be started when the first part is finished, extending over the Montagu House site. Provision will be taken in the Estimates for 1936, with the object of starting the demolition of the buildings in Whitehall-gardens during the financial year 1936. The first half of the building should be completed about 1940-41, and the whole building about 1945 or 1946.



DESIGN FOR NEW GOVERNMENT OFFICES, WHITEHALL, S.W.

MR. E. VINCENT HARRIS, Architect.

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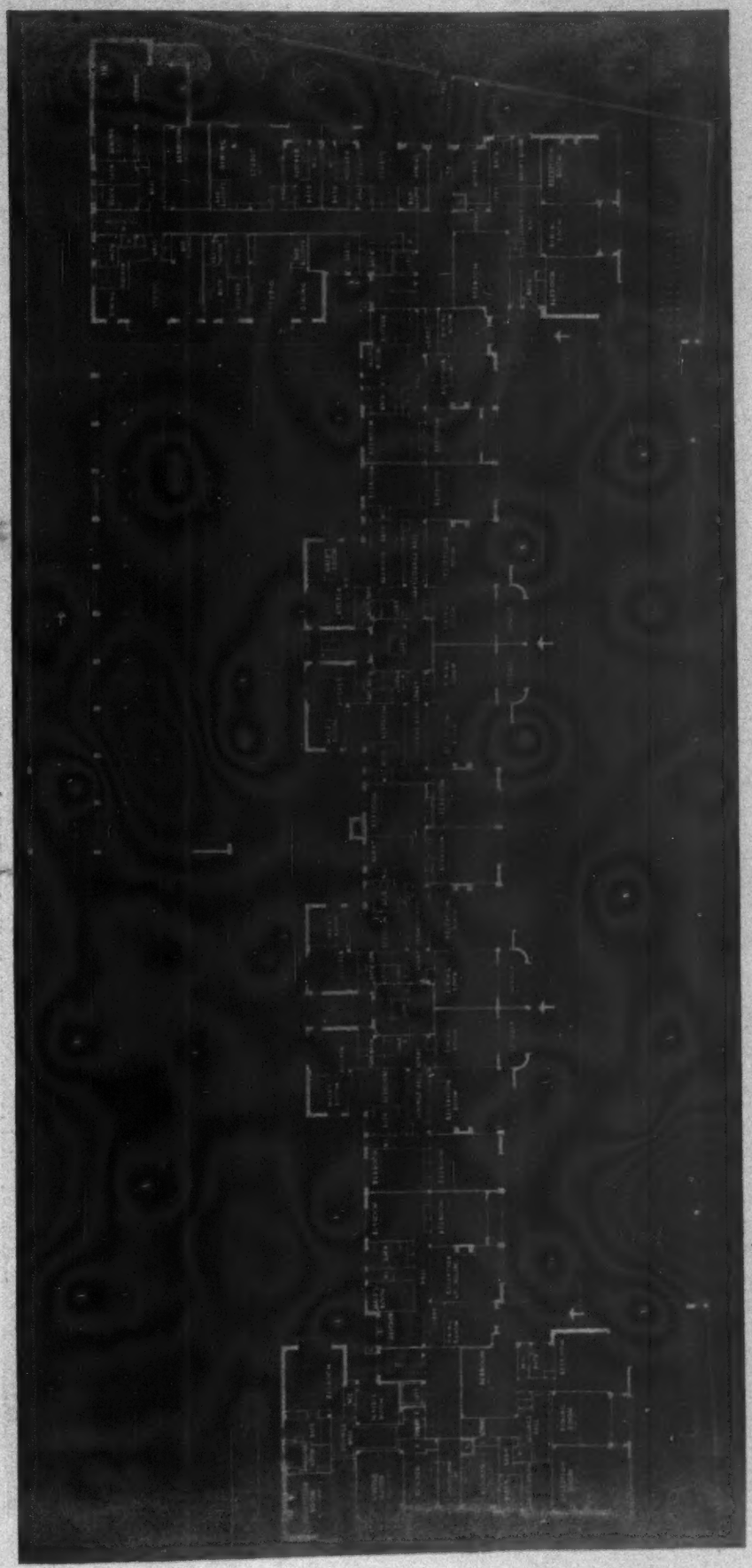
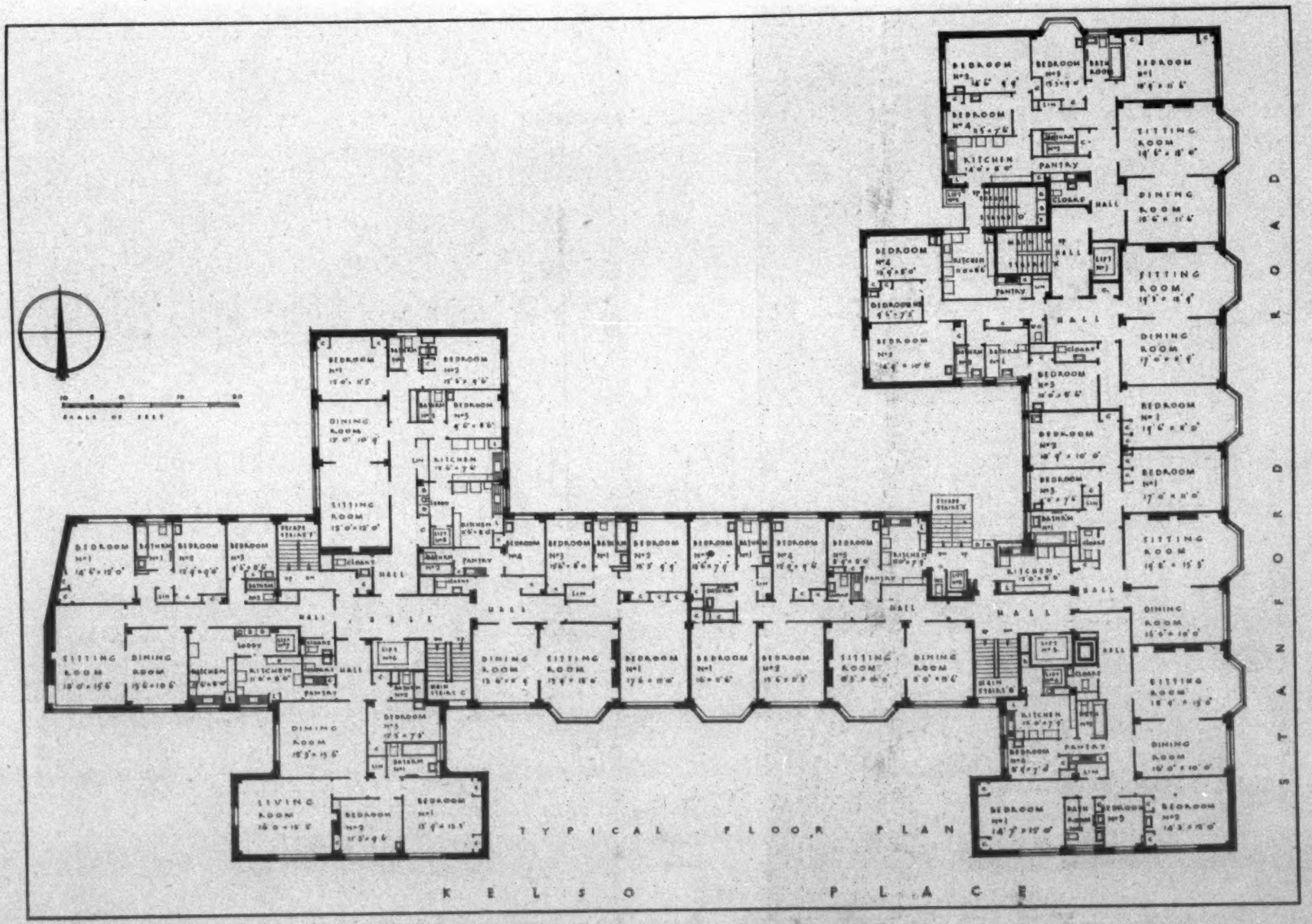


"VICEROY COURT," REGENT'S PARK, N.W. : Ground-floor Plan.
MR. C. BERESFORD MARSHALL, F.R.I.B.A. (Messrs Marshall and Tweedy), Architect.
(See page 590.)

"COTTESMORE COURT," NEAR KENSINGTON HIGH STREET, W.

MR. GERALD UNSWORTH, F.R.I.B.A. (Messrs. Unsworth, Goulder and Bostock), Architect.

(See page 590.)



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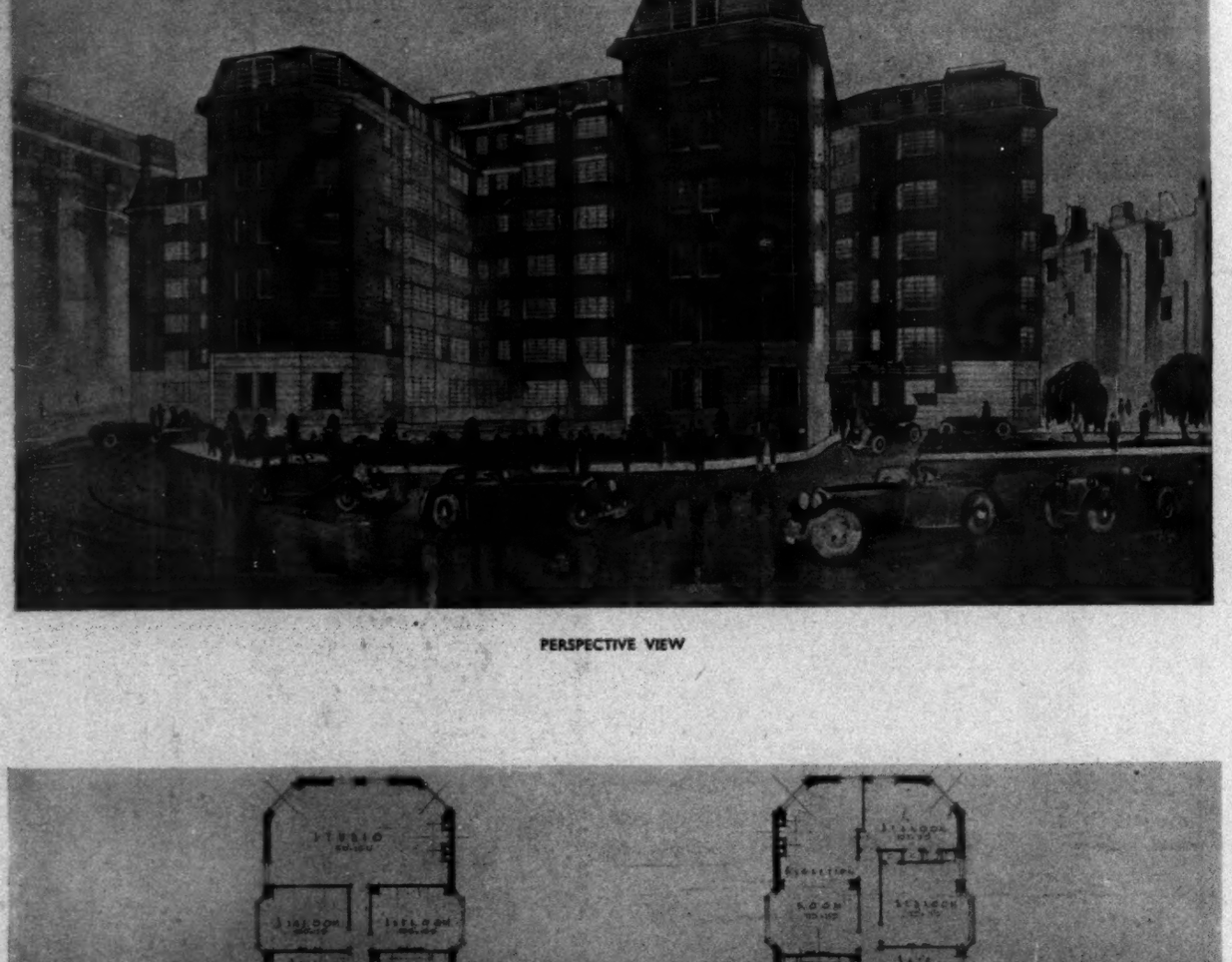


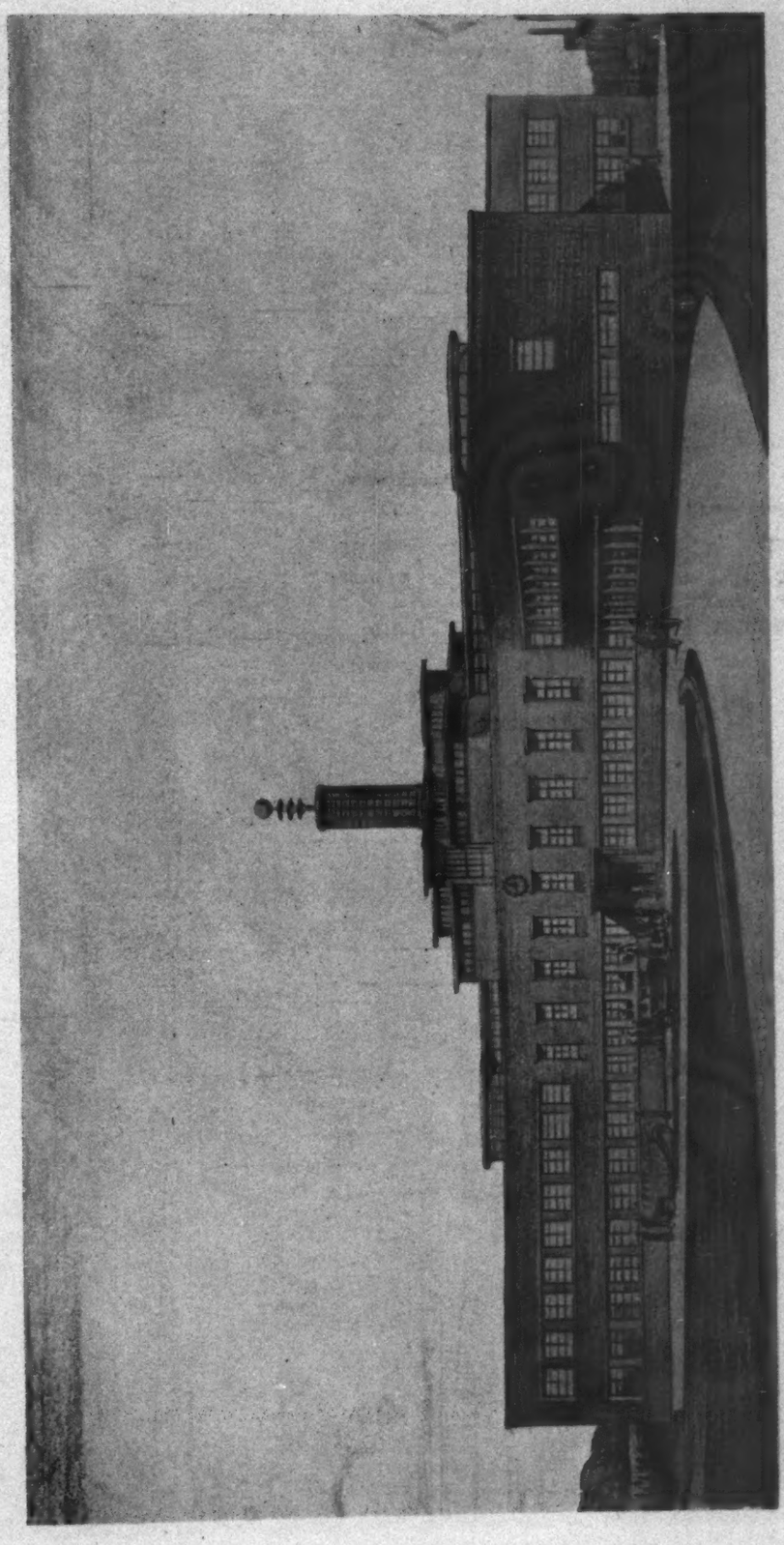
PERSPECTIVE VIEW

TYPICAL FLOOR PLAN

"STOURCLIFFE CLOSE," NEAR MARBLE ARCH, W.

MR. W E. MASTERS, F.R.I.B.A., Architect.

(See page 590.)

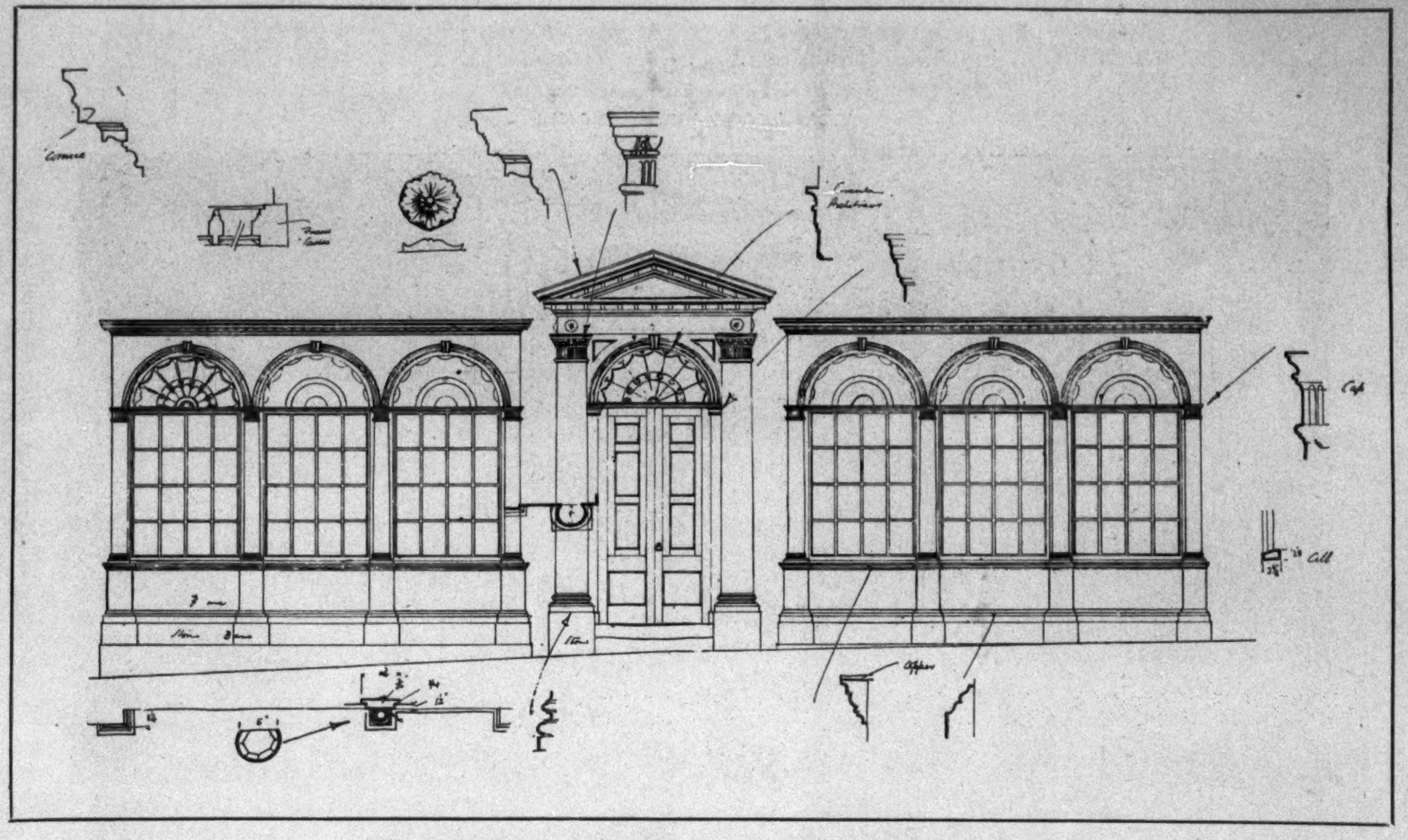


R.A. Exhibition, 1935.

PROPOSED OFFICES, SLOUGH, BUCKS.

MR. A. B. LLEWELLYN ROBERTS, A.R.I.B.A., Architect.

(See page 590.)



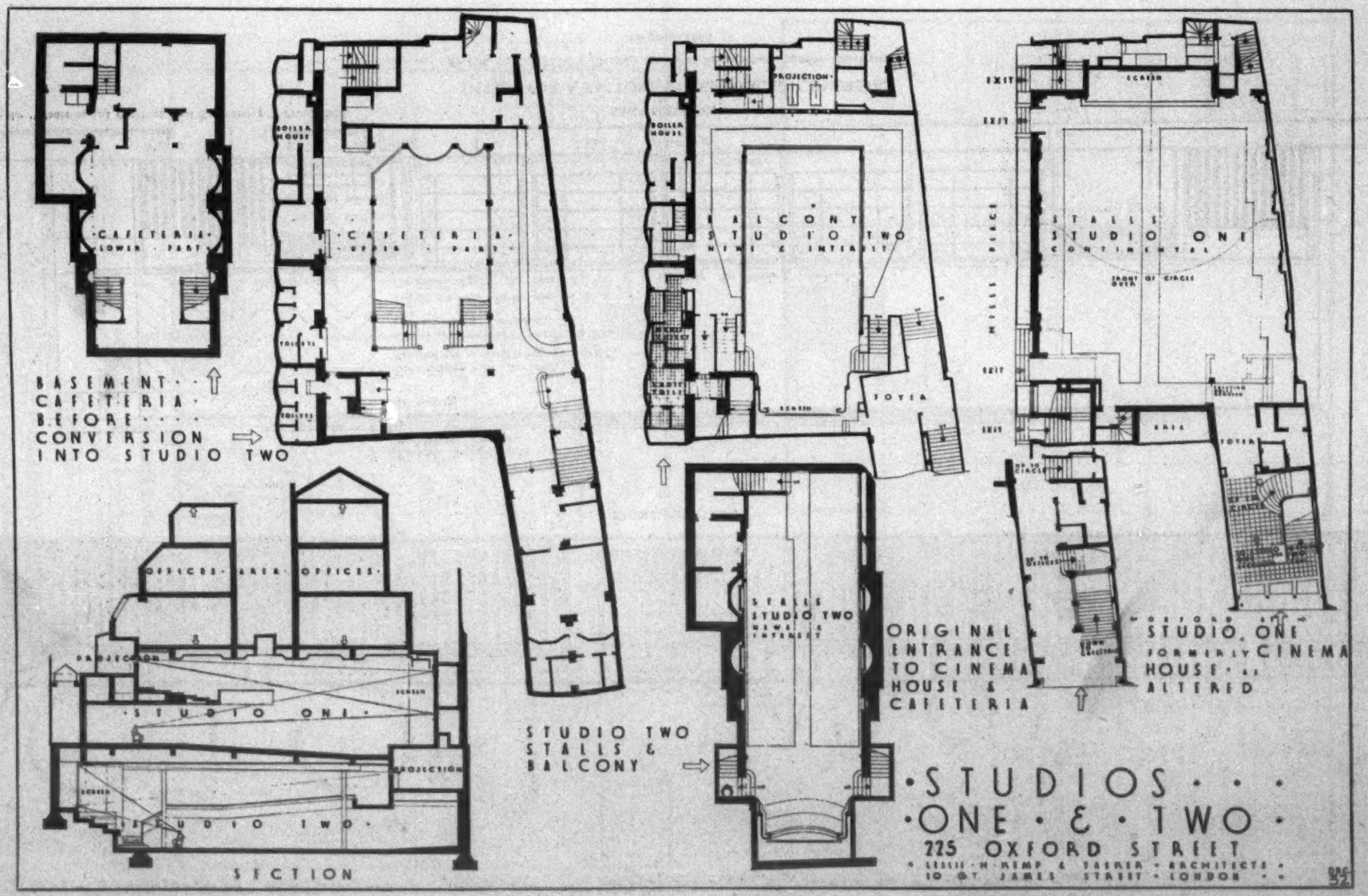
OLD SHOP FRONT FROM LEWES, SUSSEX, NOW IN COURSE OF RE-ERECTION AT HULL.

FROM A MEASURED DRAWING BY MR. WALTER H. GODFREY, F.S.A., F.R.I.B.A.

(See page 596.)

"STUDIOS ONE AND TWO," OXFORD STREET, W.: "STUDIO ONE."
MESSRS. LESLIE H. KEMP, A.R.I.B.A., AND F. E. TASKER, A.I.A.S., Architects.
(See page 596.)

"STUDIOS ONE AND TWO," OXFORD STREET, W.: "STUDIO TWO."
MESSRS. LESLIE H. KEMP, A.R.I.B.A., and F. E. TASKER, A.I.A.S., Architects.
(See page 596.)



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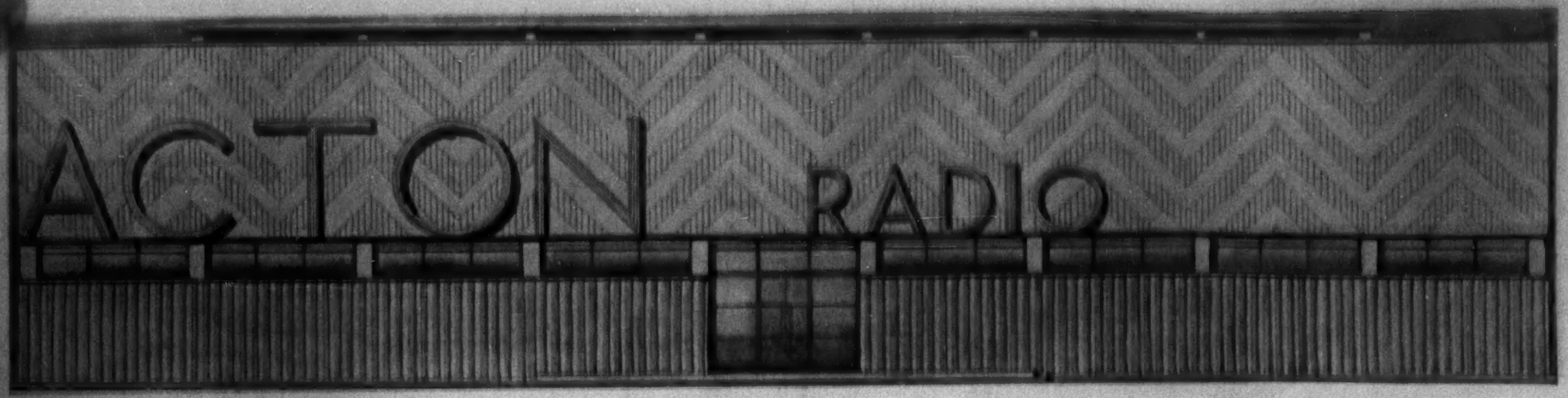
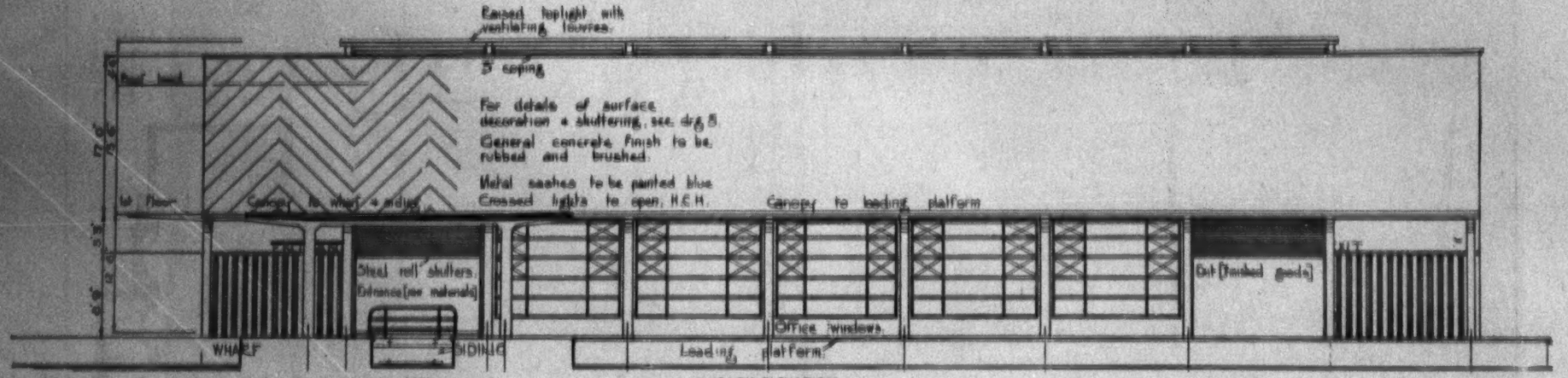


FRONT ELEVATION.


Raised toplight with ventilating louvres.
3' coping
For details of surface decoration & shuttering, see. drg. 5
General concrete finish to be rubbed and brushed.
Metal sashes to be painted blue
Crossed lights to open, H.E.H.
Canopy to loading platform
Canopy to wharf & siding
Steel roll shutters Entrance (raw materials)
Out (finished goods)
Office windows
WHARF
SIDING
Loading platform

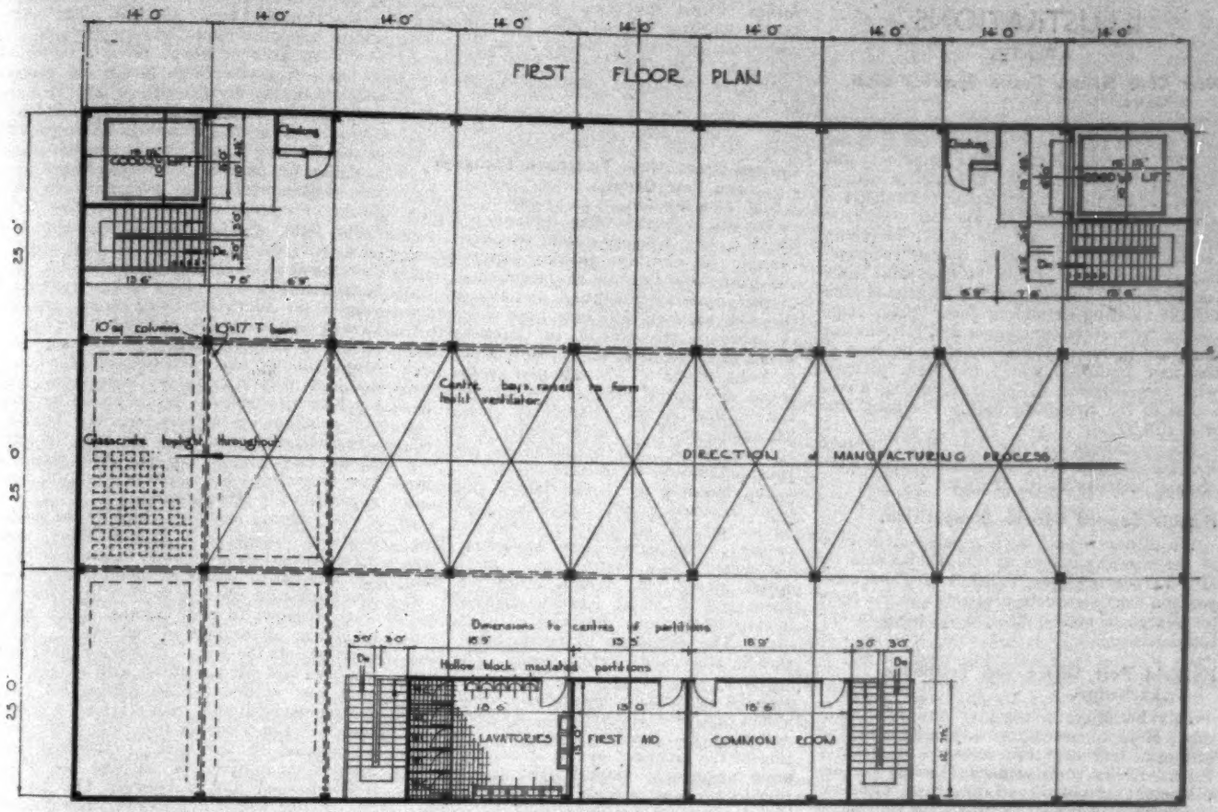
Awarded the "Concrete and Constructional Engineering" Prize, 1935

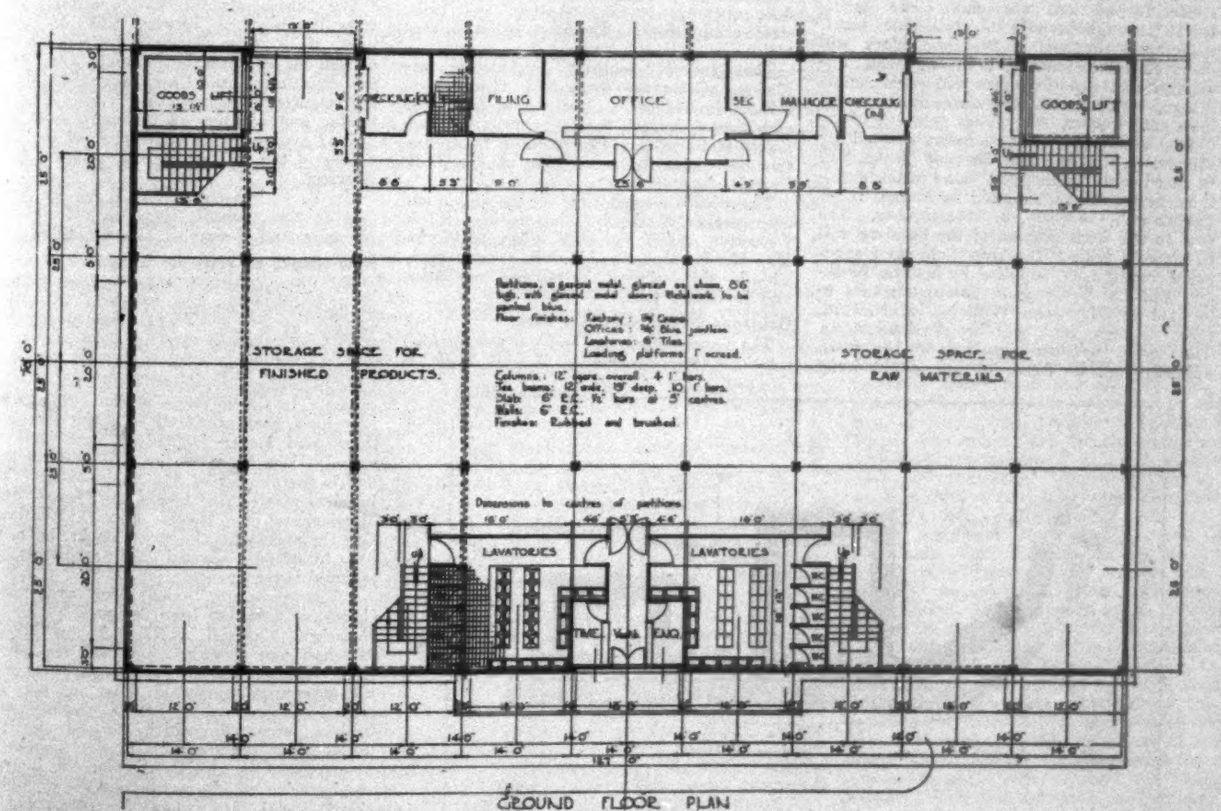
BACK ELEVATION.

DESIGN FOR A FACTORY IN REINFORCED CONCRETE.

By MR. G. E. CASSIDY (Barlett School of Architecture, London University).

(See page 596.)





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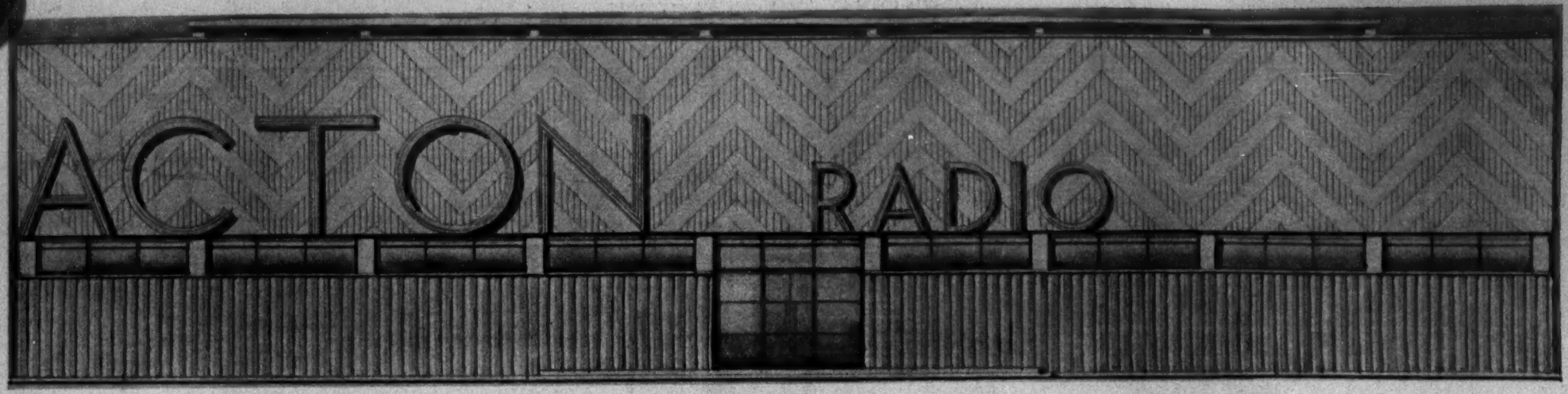
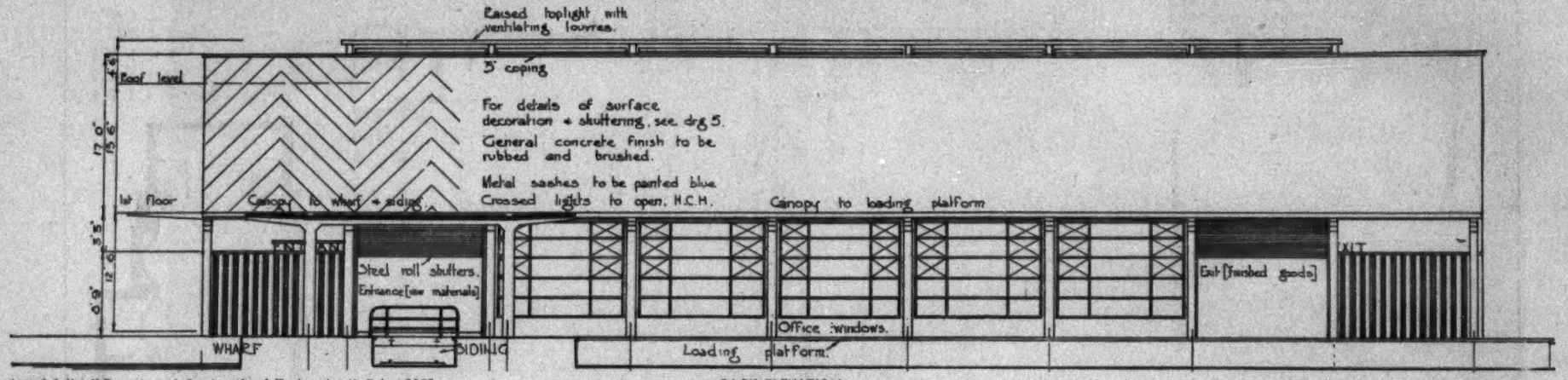


FRONT ELEVATION.



Awarded the "Concrete and Constructional Engineering" Prize, 1935.

BACK ELEVATION.

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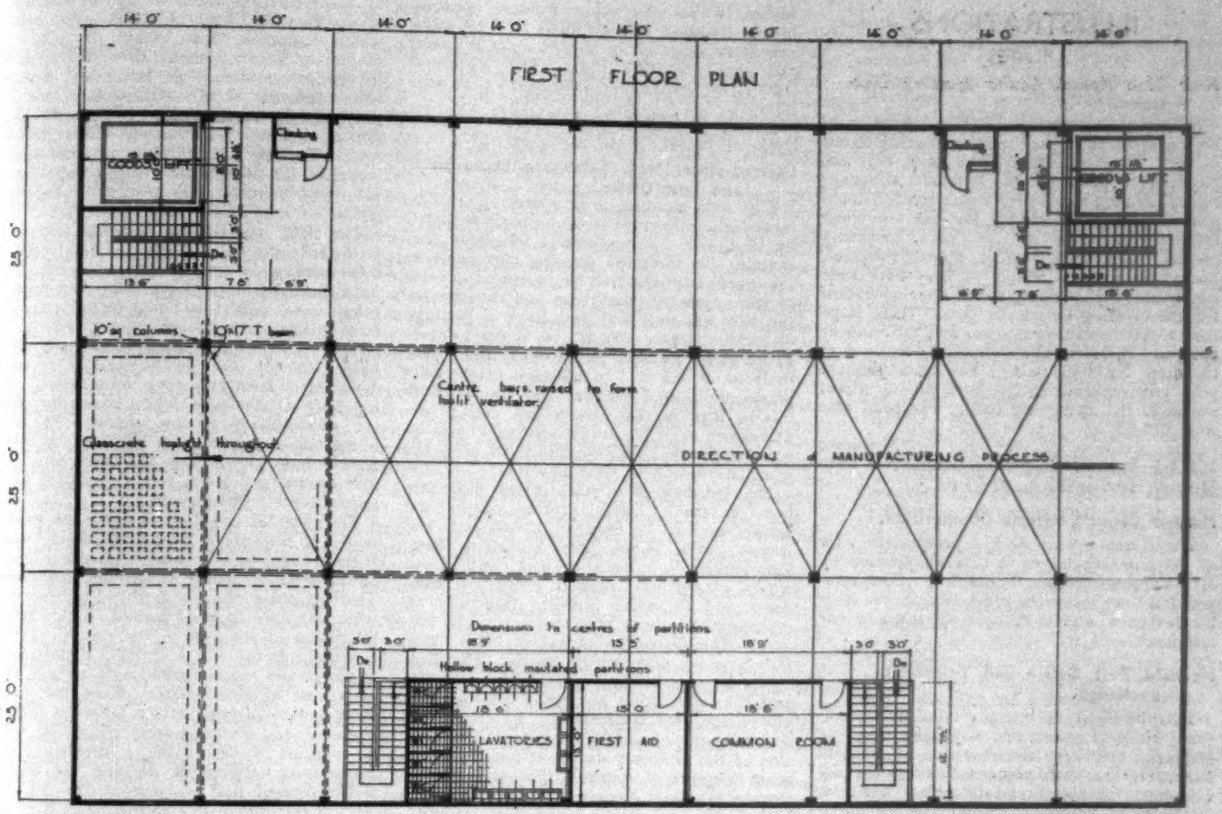
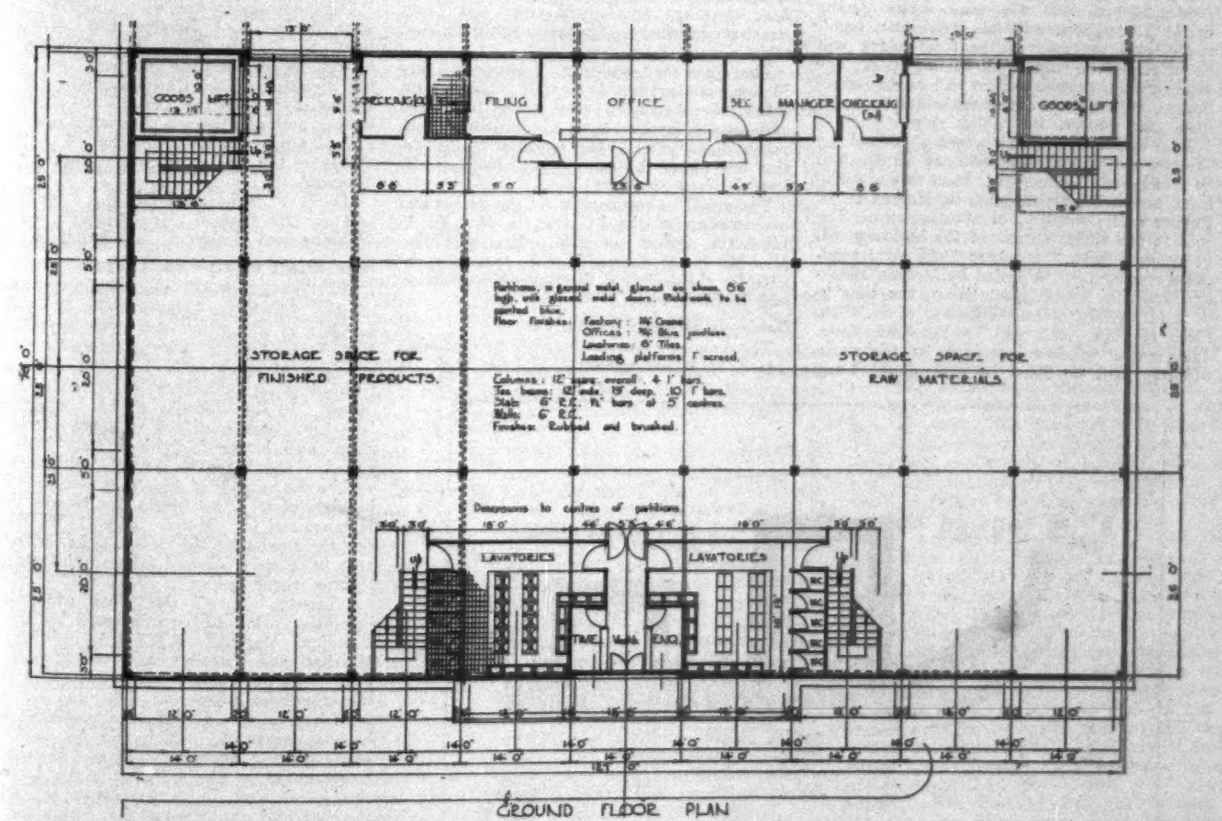




GROUND FLOOR PLAN

Awarded the "Concrete and Constructional Engineering" Prize, 1935.

DESIGN FOR A FACTORY IN REINFORCED CONCRETE.

By MR. G. E. CASSIDY (Bartlett School of Architecture, London University).

(See page 596.)

ILLUSTRATIONS

PLATES

New Club House, Gezira Sporting Club, Cairo.

This building (see page 567) has recently been erected to replace the old dressing-rooms of this famous club. The architect was required to provide for spacious dressing-rooms for both sexes that would centralise the accommodation necessary for the combined sporting activities of the club, including cricket, polo, golf, tennis, squash racquets, hockey, etc., and would at the same time constitute the dressing-room accommodation for the existing swimming pool. These large rooms, with entrance lounges and refreshment bars, are therefore the dominating features of the new building, which has been planned with two separate wings, both having direct access to the swimming bath. The total cost was £14,500

The architect is Mr. E. G. Newnum, F.R.I.B.A., and the general contractors were Messrs. Hettena Bros., of Cairo.

Harrow Council Offices Competition.

We illustrate this week a perspective view of the winning design in this competition by Mr. Verner O. Rees, F.R.I.B.A. The competition drawings were illustrated in our issue for March 6, and a critique appeared in our last issue.

Hatfield Post Office and Telephone Exchange.

This building is being erected in North-road, Hatfield, on a site adjoining the War Memorial and near the entrance to Hatfield Park. It has been planned to meet the development of postal and telephone business, and with the object of providing the maximum of efficient service to the public, with simplified working for the staff administration. The elevations have been designed in brick—the general treatment being a free rendering of late Georgian. The facing bricks throughout will be multi-tone, hand-made, and the roof of the front block will be covered with hand-made roofing tiles. The interior of the public office will be of simple design, with a dado and counter finished with mahogany veneer.

The building, which is being erected by Messrs. J. Honour and Son, of Tring, will be faced with "Sancroft," hand-made, multi-tone, facing bricks, supplied by Messrs. H. C. Parker and Company, of Westminster. The roof to the front portion of the building will be covered with "Blockley" old style sand-faced roofing tiles, supplied by Messrs. Blockley, Ltd., of Wellington, Salop, the tiles to be laid by Mr. John Williams, of N.W.10. Cills, copings, etc., will be Portland stone. The upper window openings to the main building will be filled in with double-hung sashes, whilst the other window openings in the building will be filled in with metal casements supplied by Messrs. John Williams and Sons (Cardiff), Ltd. The structural steel is by the Aston Construction Company, N.1.

Mr. F. A. Llewellyn, O.B.E., of H.M. Office of Works, is the architect.

Gerrard-street New Telephone Exchange and Post Office.

This new building is in course of erection on the site in Gerrard-street formerly occupied by the old Gerrard-street telephone exchange. To meet the growing requirements, the Postmaster-General has acquired several of the adjoining properties, and the site for the new building will now have a frontage of approximately 100 ft. to Gerrard-street, 90 ft. to Lisle-street, and a depth from back to front of 115 ft. In addition to the telephone and postal services and the administrative staff in that connection, certain departments of H.M. Inland Revenue will be accommodated. The building will have the principal façade to Gerrard-street.

The building is a steel-framed structure, faced externally with granite, stone and brick, and will be fireproof throughout, and covered with hollow tile asphalted flats. The joinery is in polished teak, and except where glazed, all internal doors are flush doors and in metal frames. Generally all internal rooms have plastered walls and ceilings. The floors are of maple block, with tiles to cloak and retiring rooms. The heating is by the low-pressure hot-water system and the lighting by electricity. Metal casements are used throughout. Externally, in designing the building, the first consideration of the architect was to obtain the maximum amount of natural light and ventilation to all departments. The lower story to both fronts is faced with polished grey granite, upper floor being in reconstructed stone and "Grovebury" sand-lime bricks. The top story is slightly recessed back from the main face of the building. The sashes to the ground floor openings to Gerrard-street and Lisle-street are in bronze. The doors are in polished teak.

The general building contractors are Messrs. Galbraith Bros., of Camberwell, S.E.5, the structural steel being fabricated and erected by the Steel Construction Company, Motherwell. The work is being carried out under the supervision of Mr. F. R. Daniel, clerk of works.

The architect responsible for the design and construction of the building is Mr. F. A. Llewellyn, O.B.E., of H.M. Office of Works. Mr. M. P. McLaren, M.B.E., was responsible for the design of the heating installation and hydraulic lifts.

Oaklands Estate, Clapham Park.

The London County Council's new housing estate at Poynders-road, Clapham Park, is to be opened on March 27 by the Chairman of the London County Council. The estate, which comprises three blocks of flats, and covers an area of about three acres, takes its name from the large house and grounds which formerly occupied the site. This was purchased by the Council in 1930 for the erection of working-class dwellings under Part III of the Housing Act, 1925, to provide accommodation for persons who were obliged to reside within reasonable proximity to their places of employment.

The flats, which have been erected at an estimated cost of £88,450, for the relief of overcrowding in neighbouring districts, have been arranged in the form of two open quadrangles, so that the living-rooms generally have a southerly aspect and overlook the street. The buildings are five stories in height, the top story and the one below being designed to form two-story maisonettes. The top floor also includes drying rooms for washing, accessible to all the tenants. The total accommodation comprises 185 flats, of which 25 will have two rooms, 113 three rooms, 42 four rooms, and 5 five rooms, and will house approximately 900 persons.

The external elevation exhibits the modern tendency towards a horizontal effect, which is emphasised by a flat roof, external balconies and alternating bands of coloured brickwork. The horizontal effect is further heightened by wide windows in steel frames, which give a maximum of sunlight in the rooms. In the courtyard at the rear a children's playground has been laid out and fitted with swings, etc., at a cost of about £250. Each flat has a kitchenette equipped with a larder, a dresser, shelving, and a copper from which hot water is supplied to the bath. Inclusive rents range from between 9s. 3d. and 11s. 3d. for a two-roomed flat to between 17s. 6d. and 20s. 6d. for one of five rooms. The flats will be among the first to qualify for the Government subsidy payable under the Housing Act, 1935, in respect of dwellings provided for relief of overcrowding.

The contractors for the building works were Messrs. R. J. Rowley, Ltd., of Tottenham, N. The electrical installation was carried out by Read and Partners, Ltd., under the direction of the Chief Engineer (Mr. T. Peirson Frank, M.Inst.C.E., F.S.I.), and the turfing and planting of forecourts and playground arrangements under that of the Chief Officer of the Parks Department (Mr. A. R. Mawson).

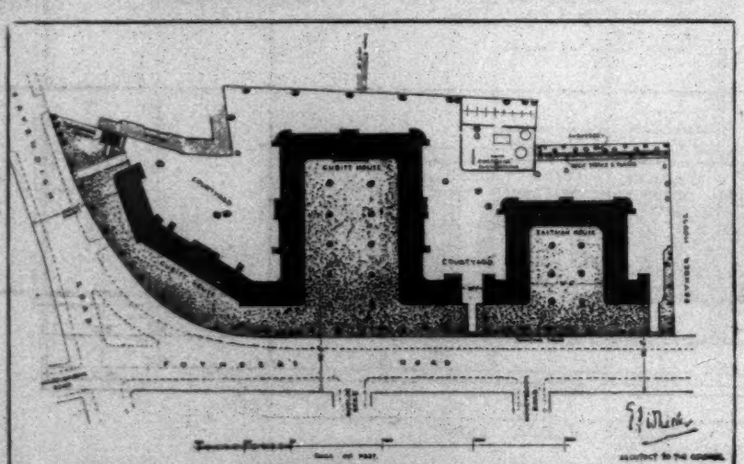
Mr. E. P. Wheeler, F.R.I.B.A., the Architect to the Council, is responsible for the planning and design of the buildings.

New Blocks of Flats for London.

We illustrate three "town-planned" blocks of flats which are shortly to be erected in London at a cost of over £500,000. They have been designed, we are informed, as the outcome of conferences between architects, town-planning authorities, health experts and others. In the interests of the public, numbers have been sacrificed to space considerations, and larger individual flats have resulted. The three blocks will vary in size, and in the number of flats they contain. The builders of all three blocks are Messrs. John Mowlem and Co. Messrs. John D. Wood and Co., the agents for the three blocks, have, we are informed, advised the architects on tenants' requirements.

"Viceroy Court," the block overlooking Regent's Park, has been designed by Mr. C. Beresford Marshall, F.R.I.B.A. (of Messrs. Marshall and Tweedy), and will contain 83 flats. Each of these has been provided with the maximum amount of light and air, and some have attached to them a protected sun-bathing verandah, which can be used for sleeping-out in during the summer months, or incorporated in the living-room to increase the latter's size. In many cases the lay-out of the flat and the size of the rooms can be altered to suit the tenant's requirements. The kitchens have been divided into sections, such as cooking, working, wash-up sections, and so on, and as each section is self-contained, the worker is saved wasted steps.

(*Continued on page 596.*)



NEW L.C.C. FLATS, OAKLANDS ESTATE, POYNDERS ROAD, CLAPHAM PARK: Block Plan.

Mr. E. P. WHEELER, F.R.I.B.A., Architect to the London County Council.

"THE ACOUSTICS OF HALLS"

LECTURE AT ROYAL SOCIETY OF ARTS.

A PAPER on "The Acoustics of Halls" was read by Mr. G. W. C. Kaye, O.B.E., M.A., D.Sc. (Superintendent, Physics Department, National Physical Laboratory, Teddington, Middlesex), before a meeting of the Royal Society of Arts, on Wednesday, March 11. Sir Raymond Unwin, P.-P.R.I.B.A. presided.

The lecturer said that the folly of erecting auditoria, however beautiful and dignified, in which it was impossible to hear either speech or music to advantage was becoming recognised. There were very many halls in this country, particularly those domed monuments erected in prosperous times a generation ago, the acoustics of which were lamentable. Not that certain modern halls were much better, though there were, of course, notable exceptions among both old and new. The view that good auditorium acoustics was a pure gamble—if not an Act of God, certainly a gift of the gods—was long cherished.

In churches there was an inherited tradition of reverberant acoustics, but in halls intended for lectures or music the audience should not be given an excuse for letting its attention wander simply because it had to strain to follow the proceedings. The whole subject had come very much to the fore in connection with the countless picture theatres which had sprung up, and though the requirements of the "legitimate" theatres were not quite the same, some of the more recent ones did not appear to have profited, to judge by criticisms they had received. Others were extremely good—for example, the Shakespeare Memorial Theatre at Stratford, in which one could hear splendidly, even in the most remote seats of the gallery.

Architectural acoustics was no longer shrouded in mystery and empiricism, but was a science of which most of the physical principles were simple and well established and the practical outcomes were mainly predictable. It was well that the major principles should become common knowledge, so that new buildings should not continue the evil acoustic traditions of the past: it was certainly not wise to wait until a building was finished, since remedies applied after erection were likely to be troublesome and unsatisfactory.

The most effective channel for guiding the public was through the architectural profession, though the general acceptance of the physical principles would be much accelerated if the interest and collaboration of the engineer, the artist and the decorator were also secured. The acoustical engineer of the future would in fact be required to have a working acquaintance with all those arts if his work was to be acceptable to the public.

The requirements for satisfactory hearing in a hall were very simple, as Sabine pointed out nearly forty years ago: (1) There should be freedom from troublesome extraneous noise; (2) the shape and size of the hall should be such that the loudness of sounds was everywhere adequate and uniform; (3) there should be appropriate degrees of reverberation throughout the speech and music ranges of frequencies, so that (*a*) rapidly succeeding sounds did not overlap unpleasantly, and (*b*) the original quality of speech and music was not impaired.

Extraneous Noise.

A hall should preferably be situated in a quiet locality free from busy traffic. The problem of noise exclusion was one to which the Department of Scientific and Industrial Research was at present giving much attention at both the National Physical Laboratory and the Building Research Station. Air-borne sounds were best kept out either by massive single walls or lighter composite walls of suitable design: high notes were easier to stop than low. Impact noises were isolated by interposing discontinuity or elastic resiliency somewhere in the structure.

It was important that the windows of a hall should look out on quiet areas, as the insulating value against air-borne noise of a wall containing even a small window approximated more nearly to that of the window than of the wall. If there was much external noise, the windows should be of thick or double glass of correct spacing, and should not be opened when the hall was in use, otherwise the insulation became almost negligible. For such cases, artificial ventilation might be required, in which event the ventilation ducts should be lagged to prevent fan noises reaching the hall. Silent motors were now available. A double set of silent well-fitting doors would help to prevent the intrusion of external noises from outside corridors, the floors of which should be covered with linoleum or carpet with an underlay of felt or fibre board.

The problem of excluding external noise from a hall was, of course, bound up with the degree of internal noise which prevailed. Every hall when in service had a general noise level of its own, which varied according to the conditions, so that the precautions to exclude external air-borne noise need be no more than would ensure that the intruding noise would be effectually masked by the existing noise. Knudsen's measurements indicated that the intruding noise would be unnoticeable if its level was some 15 to 20 phons below that in the hall. For example, if the noise level in the hall was 30 phons, an external noise of 80 phons would not be a nuisance if the sound-proofing of the walls was such as to reduce the noise on the average by about 65 phons. Masking by low-pitched notes was more pronounced than by high.

Internal noise in a hall might be much reduced by covering the gangways, etc., with rubber, linoleum or, better still, carpet with an underlay of felt or fibre board. If such a treatment were extended all over the floor, the noise of feet shuffling would be largely abated. Benches or chairs should be of the non-creaking variety. If an audience was made comfortable, it would be less restless, even when its attention was beginning to wander. Incidentally, restlessness was almost inevitable if the audience could not see very well. The solution to this latter was a raked or terraced floor and a raised platform, features which were not always possible in general utility halls but had the additional merit of reducing transverse room resonances. Furthermore, heavily upholstered seats had acoustical merits from a reverberation point of view.

Size and Shape of a Hall.

It might be taken as a cardinal creed not to build a hall any larger than was likely to suffice for normal purposes. There was a limit to the capacity of the unaided voice; and a loudspeaker system would be required if a hall was very large. The following were a few acoustical maxims on the designing of halls:—

"(*a*) Short broad halls are preferable to long narrow ones.

"(*b*) Keep the ceiling low so that it can be used as a reinforcing reflector. If possible, restrict the height to about 30 ft. and so prevent echoes, which arise with a path difference of 70 ft. or more, *i.e.*, when the reflected ray lags behind the direct ray by 1-16 sec. or more.

"(*c*) Choose a design which will promote even distribution of sound—that is, one free from focussing and multiple reflections. Avoid, therefore, large concave surfaces, such as semi-circular or elliptical walls, domed ceilings or barrel vaulting. These may cause very troublesome effects, particularly if the centre of curvature is situated in the audience.

"(*d*) Make full use of large smooth reflecting surfaces behind and near the platform—for example, by splaying the side walls and ceiling.

"(*e*) Arrange for the floor and the remote wall to be sufficiently absorbent to prevent undesirable reflections."

Long and relatively narrow rectangular halls, proceeded the lecturer, with a high ceiling and the platform at one end were very common in this country—for example, in university halls. One of the features was that hearing was often poorest in the central region, a defect determined jointly by the degree of delay of the reflection from the ceiling, and the strength of the direct sound compared with that of the echo. Close to the platform, the direct sound dominated the echo, and far away, the delay of the echo was sufficiently reduced to render it harmless. It was clear that in such halls it would be beneficial to line the far wall and the remote half of the ceiling with absorbent, but to leave the end of the hall near the speaker reflecting.

A properly designed ceiling was by far the most effective reinforcer of sound by reflection. The principle was exemplified very well by a comparison of the House of Lords and the House of Commons, which were erected in 1848. Both Houses were given very high ceilings and their acoustics were manifestly bad. The complaints in the Commons were so great that the chamber was fitted after two years with a false glass ceiling about 35 ft. high, a remedy which was completely successful. The volume was now 127,000 c. ft., and the reverberation period with a full house about 1.5 secs.

In very large halls it might be difficult or impossible to avoid surfaces which by single or multiple reflection produced echoes. In such cases, the offending surfaces might be treated with absorbents or broken up by deep panelling or coffering. Another plan which was sometimes adopted was to suspend velaria or mattresses of absorbent (with a suitably decorative covering) in convenient regions where rays of sound converged—for example, at the centre of curvature of barrel vaulting. Such absorbent was, moreover, nearly always useful from a reverberation point of view. Alternatively, the original beams of sound might be deviated near the source by means of large sounding boards, or, in large halls, by the proper placing of directional loudspeakers.

Good acoustical designs of halls were shown where the side walls were splayed partially or completely, so affording beneficial reflections for the back seats. The ceiling, which should not be too high, could also be advantageously splayed at the platform end, so that it would act as a large sounding board.

Sometimes the boundary contours were more elaborate, in order to promote uniform hearing, particularly in and under galleries, as, for example, in the Salle Pleyel (volume 800,000 c. ft.), a concert hall in Paris, the reflecting ceiling of which consisted of sections of parabolas. Unfortunately such designs were not "one-way," and, as was found with parabolic reflectors in a number of English churches over 100 years ago, the collected noises from the congregation, and possibly their comments, were apt to embarrass or annoy the preacher. In the Salle Pleyel this defect was largely overcome by extensive application of acoustic absorbents near the audience. The reverberation was small and the acoustics were described as excellent.

The acoustical features of a hall were bound up with the various paths of the sound rays between the source and the hearer. A survey in three dimensions of the possible paths would be a formidable matter in some cases. At the National Physical Laboratory, they had used the analogous method of reflected light applied to three-dimensional scale models. A large number of small mirrors were mounted on the interior walls of the model, and a small bright source of light replaced the source of sound. Each mirror formed its own image so that the tracks of the reflected rays were rendered visible. The method took no account of the spreading which sound waves experienced by diffraction, but such models were capable of providing a visual demonstration of some of the acoustical defects due to reflection.

Loudspeakers.

According to Knudsen, a loudspeaker was essential in most halls if the volume exceeded

100,000 c. ft., and even in smaller halls which were troubled with much extraneous noise or when a speaker had a weak voice. During the last few years the use of loudspeakers had become general, and in spite of inherent shortcomings there could be no question as to their indispensability in very large halls, enabling, as they did, many to hear who otherwise would hear little or nothing. It was not that loudspeakers were a palliative for excessive reverberation: on the contrary, they were heard to best advantage when reverberation and echoes were reduced to a minimum.

There were many technical aspects in connection with loudspeakers which were best left to those who manufactured and installed such equipment, but one or two general points might be made. For natural effect the loudness should not exceed speech level, so that the amplification should be no more than would enable remote hearers to hear satisfactorily. The loudspeakers should therefore be sufficiently directional to avoid excessive loudness for hearers near to them. If they were placed well above the head of the speaker himself, the majority of the audience would be conscious of only one source of sound. Care should be taken when supplementary loudspeakers were mounted in remote parts of a hall where hearing was poor—for example, under galleries—as when loudspeakers were separated by more than about 70 ft., objectionable duplicating of sounds, resembling echoes, might result in some regions.

Reverberation.

Reverberation was due to multiple reflection of sound by non-absorbent boundaries. It was an unknown phenomenon in the open air, but was familiar to all in large empty rooms and particularly in cathedrals. Excessive reverberation, which was probably responsible for nine-tenths of the acoustic defects of large halls, could be cured, as Reid pointed out 100 years ago, by introducing acoustic absorbent. In a hall with hard rigid boundaries, such as painted hard plaster, sound might suffer only about 2 per cent. loss by absorption at each reflection, and so the reflections were likely to be numerous before the sound was dissipated. If the sound was generated at a steady rate, the average intensity level would build up until it reached an equilibrium value in which the rate of absorption balanced the rate of supply of energy. If now the sound was suddenly stopped, the sound would die away at a rate determined by the size, shape and nature of the boundary surfaces of the hall. In the reverberation chamber at the National Physical Laboratory sounds of low pitch continued for about 15 secs. (which was as long as in some cathedrals), during which time the sound travelled over three miles and was subjected on the average to some 1,200 reflections. On the contrary, in a room which was lagged with thick layers of cotton wool, sounds died away so rapidly that it was difficult to detect any prolongation at all.

In the reverberation room, speech was confused, as the words ran into one another: in the lagged room, the words were so clipped that conversation became lifeless, unpleasing and characterless. It was evident there was a happy mean, and it was such considerations that led Sabine, then Professor of Physics at Harvard University, to investigate the whole question in 1900. He succeeded in elucidating the major principles of reverberation and deduced a formula which had since been widely used by acoustical engineers. This formula was confirmed mathematically by Jaeger in 1911, by means of a statistical method which postulated a completely random distribution of sound in a hall and a regular absorption by all the boundaries.

Many halls with excessive reverberation greatly improved when there was a large audience by reason of the absorptive properties of their clothes. It was much better, however, to be independent of such a variable factor and to provide heavily upholstered chairs which would be almost as effective acoustically as their occupants, for each of whom a total absorption of about 4 sabins (*i.e.*, foot sec. units) was commonly assumed. A heavy carpet all over the floor was also very helpful in most halls.

There was a large range of acoustic absorbents now commercially available for the treatment of walls and ceilings of halls. Good absorbents were characterised by the presence of innumerable small pores or crevices in the surface. Certain absorbents, such as acoustic (aerated) plasters and tiles, had a masonry finish, while soft materials, such as felt, asbestos, etc., were often mounted behind a perforated or porous covering.

Resonance.

Reference should be made to the important part that resonances sometimes played in the acoustics of a hall, though the practical information was meagre. Not only the hall itself but the walls and many of its contents might resonate to the sounds made in the hall. Experienced public speakers in an unfamiliar hall searched for and adapted their voices to the natural resonance. The effect, which was very familiar in empty rooms, such as bathrooms, might be a nuisance on occasion. Certain structures, however, such as a wooden platform or wood panelling, had a practical range of forced as well as free vibrations, so that between them resonance might be excited by a considerable proportion of the music and speech range of frequencies. From a resonance point of view, it was not easy to explain the undoubted preference of musicians for wood-panelled halls, but the explanation might rather lie in the fact that, in contradistinction to most available acoustic absorbents, wood panelling (as well as lath and plaster) showed relatively low absorption for high notes and relatively high absorption for low notes. This music sounded brilliant instead of dead, and the quality was enhanced rather than dimmed.

TOWN PLANNING INSTITUTE

"THE WORK OF A TOWN PLANNING CONSULTANT."

Major L. Rosevear (President) took the chair at a meeting of the Town Planning Institute on March 13 at Caxton Hall, Westminster, when Mr. A. E. Brookes read a paper on "The Work of a Planning Consultant."

Mr. Brookes said the work of a planning consultant covered a wide field and took many forms. As a first instance, he might be called in by an individual authority or by a statutory joint committee to prepare for them from its commencement to its completion a statutory planning scheme for their single or joint area, the consultant employing entirely his own staff, and being responsible for the cost of providing and preparing the whole of the maps in connection with such a scheme. Secondly, he might be appointed in an advisory capacity by a joint committee or individual authority where such authority were themselves employing their own staff, defraying the cost of maps, etc., and providing all office accommodation, etc. Thirdly, the consultant might be called in from time to time in different parts of the country to advise or represent an individual landowner affected by the provisions of a scheme not prepared by him, or to negotiate with the planning authority on behalf of the owner for alterations or amendments that might be required as affecting his interests or the development of his estates. Another and very important work which came within the scope of a planning consultant's practice, and incidentally placed him on the "other side of the fence," was the preparation of estate development schemes, often involving long and protracted negotiations with the planning authorities.

The Preparation of a Scheme.

The consultant's first duty was to provide an office and transfer staff to the area of the scheme, if the size of the scheme justified the adoption of this course. In the selection of the more senior members of the staff, who would be in charge during the time their principals were engaged elsewhere, it was most desirable that of the three principal assistants one should have been trained and be qualified as an engineer, a second as an architect, and the third as a surveyor; in addition each should be experienced in statutory planning. One of the next steps to receive attention was the provision of the necessary 6-in. and 25-in. scale maps, to permit all the necessary copies to be prepared of the resolution map, and to make a commencement on the revision of Ordnance on the 25-in. scale maps. Reliable assistants were now (and indeed before this stage was reached, if possible) placed in charge of the revision of the Ordnance survey. In areas where very considerable development had occurred since the last revision of the Ordnance, it entailed protracted, arduous and expensive work. His experience had been that the surveyors and other officials of local authorities had been very helpful indeed in giving him access to approved plans for all buildings since the publication of the last Ordnance sheets. These were, however, at times dangerous, as although a plan might be passed for a building in a particular position, it might in practice without transgressing the consent or by-laws, be built in a different position, and it was necessary that the information obtained from these plans should be carefully checked on the ground by actual measurements.

Interim Development.

All the regulations having been complied with and the Minister having notified his approval to town plan the areas included in the scheme, the scheme became effective and the provisions of the Town and Country Planning (General Interim Development) Order, 1933, came into force. It then became desirable, if not absolutely necessary, to draw up general regulations governing the control of such development. The consultant must now be in close contact with the person appointed to act as clerk to the joint committee. It had always been his (the lecturer's) practice to set out in a report to the joint committee a concise statement of the procedure which needed to be followed, with copies of all requisite notices and advertisements, and to request that the clerk be authorised to take all the necessary steps to comply with the same. The same course was followed with respect to registration of owners. This was a matter entirely devolving on the clerk and was carried out at the cost of the joint committee. A separate register of owners was kept for each constituent local authority. On his advice all joint committees with which he was working had in each case set up a technical sub-committee consisting of the surveyors to all the constituent authorities, representatives of the county surveyor's staff, a member of the Land Agents' Society, and, in some cases, a representative of any catchment board in the area. The county surveyor himself had usually been appointed as chairman of this committee.

A report was drawn up by this sub-committee for submission to the joint committee giving full particulars of suggested relaxation of by-laws with respect to street widths, together with a résumé of general regulations which they recommended should govern interim development pending the final approval of the scheme. On the receipt of the Minister's approval to the proposed minimum widths of streets, this schedule, together with a short résumé of the scope and provisions of the scheme as recommended by the technical committee, was issued by the joint committee in the form of a memorandum, printed copies of which were forwarded to each constituent authority and to the consultant and others interested for free distribution amongst the intended developers. Although there was no statutory obligation to issue the memorandum, it had been greatly appreciated by developers, and had proved very useful to the officials of the constituent councils, and very helpful to the consultant.

The Interim Development Order being in force, it was necessary that all plans submitted requiring interim development permission should be submitted to the consultant for report. To avoid delays and confusion, the following procedure might be adopted and agreed between the joint committee and the several constituent authorities:—(1) The con-

stituent authority, on the deposit of any plans for building or development, shall, if they affect the county interests, immediately forward the same to the county surveyors, and if the interests of the county are not affected, direct to the town planning consultants. (2) The county surveyor, after examination of the plans received, to furnish the constituent authority with his observations, and transmit the plans, with a copy of such observations, to the town planning consultant. (3) The town planning consultants, on receipt of plans either from the constituent authority or the county surveyor, to examine them on behalf of the joint committee in connection with town planning regulations, and/or proposals, and to advise the constituent authority, through their surveyor, whether or not an interim development order should be issued, and if so, upon what conditions, embodying the conditions (if any) which may have been imposed by the county surveyor. (4) The constituent authority, in issuing a form of permission for interim development (which is prepared in quadruplicate) either with or without conditions, shall forward a copy of the same to the town planning consultants, and to the county surveyor, if the proposals affect county interests. A special staff in the consultants' office dealt with these interim development proposals.

In making a commencement on the actual proposals of the scheme, existing traffic density maps were obtained in respect to the major traffic routes throughout the area and the route proposals were recorded on a 6-in. scale skeleton map of the combined areas of the scheme. All proposals for the widening and improvement of existing highways were prepared in close collaboration with the engineers and surveyors to the responsible highway authorities, and particularly with the county surveyor and his engineering and town planning staff, with respect to classified roads and "other roads" in rural areas. A standard width (not standard widths under the Restriction of Ribbon Development Act, 1935) was adopted for each road in agreement with the county and/or other highway authorities. Very great care was exercised in the siting of new arterial and/or by-pass roads which might be of classification value. No scheme was submitted to the county engineer until all possible alternative routes had been considered, and not then until the selected route had been carefully surveyed and longitudinal sections and, in some cases, cross-sections had been prepared. These were submitted to the county engineer and the proposals were not included in the scheme until they had received his approval in principle. Roads of less traffic value were dealt with in a similar manner.

The formulation of zoning proposals, reservations of public and private open spaces, and the definition of restricted areas was then drawn up entirely without negotiations with owners, all of which proposals were recorded on the draft maps. These proposals were then submitted separately to the council of each of the constituent authorities, the practice followed being to deposit the plans at the office of the respective councils at least three or four weeks before the arranged date of the meeting, in order that every member of the council might have an opportunity of privately inspecting them, and an assistant was sent to the council offices to give any explanation to councillors which might be desired. At the same time that the plans were deposited, full explanatory reports with tentative estimates of the cost of various reservations of land for specific purposes and possible effect in claims for compensation which might result from reservations, were issued to each member of the council, copies of which were sent to the county council. The report and the maps were usually considered by an appropriate committee of each council and later a meeting of the full council was held, which the consultant attended with the object of explaining the proposals in detail. Final agreement being reached, the scheme as defined on the maps was recommended by each constituent authority to the joint committee for tentative approval, this tentative approval in all cases being subject to any revisions which might be agreed to at a later date following a consultation with the owners.

The next step was to invite all owners of estates within the area of the scheme to submit a 6-in. scale map showing the boundaries of their estates, an undertaking being given that it should in due course be returned to them or their agents showing the whole of the town planning proposals, so far as it related to their estate, clearly defined on the map. At a later date conferences with owners were arranged, and it had been generally found that owners were not unreasonable and that it had been possible to arrange modifications which met with their views and which were not detrimental to the principles of the scheme. These tentatively agreed amendments were then submitted to each constituent council for approval, and if approved were recommended by them to the joint committee and were then embodied in the scheme.

During the time that negotiations were in progress with the owners the text of the draft scheme was being formulated, and in all cases where he was engaged in the preparation of a scheme this work had been entirely carried out by him. In preparing the text, the Model Clauses of the Ministry of Health were taken as a basis, but special and amending clauses were inserted to adequately provide for local peculiarities and to meet the views of the local authority including the county council, having regard always to the limitations of the Act. These clauses when drafted were drawn up in book form and a copy was submitted with a lengthy explanatory report to every member of each constituent authority, and supplies were forwarded to the clerk of the county council for distribution amongst members. Meetings were again arranged at which the consultant attended and the draft scheme was explained and dealt with clause by clause. When it was finally agreed by each constituent authority it was recommended to the joint committee for adoption, the joint committee giving a decision where there might be divergence of opinion between one or more constituent councils.

The question of the size, design and external appearance of buildings and the extent to which they affected the amenities of a district was a vexed one, and, after all, was a matter of opinion. If the powers vested in the planning authority in this respect were exercised in an arbitrary manner, difficult positions were likely to follow. In certain schemes he had in hand an excellent arrangement had been arrived at with the appropriate branch of the Royal Institute of British Architects who, acting for and on behalf of the Council for the Preservation of Rural England, arranged for two of their members to meet the consultant when necessity arose. The submitted plans were considered jointly, and recommendations to constituent authorities (which were kept to broad principles) were agreed. In almost all cases satisfactory adjustments were arranged.

Following the public deposits of the scheme, all objections received were considered by the consultant and a joint sub-committee of all the constituent authorities appointed for the purpose, who after conferring with the objectors in accordance with the requirements of the Town and Country Planning regulations, recommended such concessions as might be deemed expedient to the joint committee. In due course and following the usual procedure according to regulations, a formal resolution on the recommendations of all the constituent authorities was passed by the joint committee "making" the scheme, and it was then forwarded to the Minister with all the necessary maps, copies of objections and other particulars.

Discussion.

Mr. Longstreth Thompson, in proposing a vote of thanks to the author, said Mr. Brookes had disclosed an organisation which would be the envy of consultants and every town planning department. He did not know whether the object of having the paper and the one read at the previous meeting* was to give occasion for local authorities to discuss the advantages or disadvantages of a consultant or a planning officer. Personally, he thought the best results could be obtained by a combination of the two. In any event, it was very important that the consultant should co-operate very closely with the officers of the authority he was advising.

Mr. E. G. Culpin seconded the motion. Those who worked in urban areas had no idea what a consultant for rural areas had to put up with. In the case of many plans they had to look at them with a blind eye. They were the work of village builders, and there was this to be said that while the plans might be abominable they knew the building would be good. Anyone who went in for consulting work in rural areas with the idea of making money would make a great mistake, but there was infinite reward for those who loved the countryside in the feeling that they were having a hand in getting something better.

Lord Justice Scott stressed the need for the employment of consultants by all planning authorities, and suggested that the Council of the Institute should take steps to press the matter on such authorities.

Mr. W. Dobson Chapman dealt with some of the difficulties experienced by planning consultants. The question of map revision was a difficult one. In one case where the Ordnance map was revised in 1907 they had to put on 779 houses in addition to road widenings and other forms of revision.

Dr. T. Adams said they were passing through an experimental stage, but in looking to the future if the planning officer was the right thing, then the consultant's position should be as a collaborator. The town planning officer must not look on the consultant as someone taking his job or trying to supersede him, but as someone on whom he could call upon for advice and collaboration.

The motion was passed, and Mr. Brookes briefly replied.

* Mr. H. Robinson on "The Work of a Planning Officer." See our issues for March 6 and 13.—Ed.

BOOK REVIEW

The English Abbey: Its Life and Work in the Middle Ages. By F. H. Crossley, F.S.A. London: B. T. Batsford. Price 7s. 6d.

The stress and strain of modern life give little time for people to realise the happenings, customs and habits of past ages, though to architecture and old buildings some study may be given from time to time, with the acquisition, as a result, of some knowledge of the past. To the architect, antiquary or layman this book will be found vastly entertaining. An able foreword is contributed by the Right Hon. W. Ormsby Gore, M.P., F.S.A., and the book is illustrated with fine photographs by the author and drawings by Mr. Brian Cook. Two coloured plates are given, one of Kirkstall Abbey, from a water-colour by that great English water-colourist, Thomas Girtin. The grandeur and impressiveness of the architecture of these buildings is great, and when we think of the working conditions, plant and tackle of the time of their erection it is remarkable that such noble buildings were ever built. A certain atmosphere and awe-inspiring sanctity prevails in these wonderful old structures, and we all hope that they may long survive. We read: "When a building was to be erected, the first step was the appointment of a working architect called the master mason, who took charge of the design, construction and management of the work. This was generally a well-paid position, and included a house, together with a fur coat and gloves; if the work was on a large scale it was permanent with a pension attached." To which the author adds: "Nothing better than the working architect has been devised, and it is a thousand pities for architecture that he was ever superseded by professional gentlemen, often without practical experience." For all that, we believe the "professional gentlemen" of to-day, when he is not only "a working architect," as he must be, but a competent architect as well, has produced, and is still doing so, many fine ecclesiastical buildings which will excite the admiration of posterity. The book is thoroughly entertaining and well done, a glance at which brings back memories of past-time visits.

A CHIMNEY IN REINFORCED CONCRETE

THE USE OF CONTINUOUSLY MOVING FORMS

In view of the fact that continuously moving shuttering—though not infrequently applied in the erection of structures of uniformly circular section—has not previously been employed in Great Britain in the construction of a tapering shaft, the erection of the chimney of this nature for the Morgan Crucible Co., Ltd., at Battersea becomes of considerable interest.

Design and Materials.

The height of this reinforced concrete shaft—which was designed by Messrs. L. G. Mouchel and Partners, Ltd., and erected by Messrs. Holloway Bros. (London), Ltd.—is 275 ft. above ground level. The internal diameters of the reinforced concrete shell are 11 ft. 7 in. at the top of the footing, 10 ft. at 75 ft. above ground level, 8 ft. 10½ in. at 175 ft. above ground level, and 8 ft. 3 in. at the top. The shell thickness is 18 in. at the bottom, 10½ in. at 76 ft. above ground level, 6½ in. at 175 ft. above ground level, and 6 in. immediately below the coping. Immediately above the reinforced concrete cornice there is an acid-resisting bronze cap of inverted V-section. (See this page.)

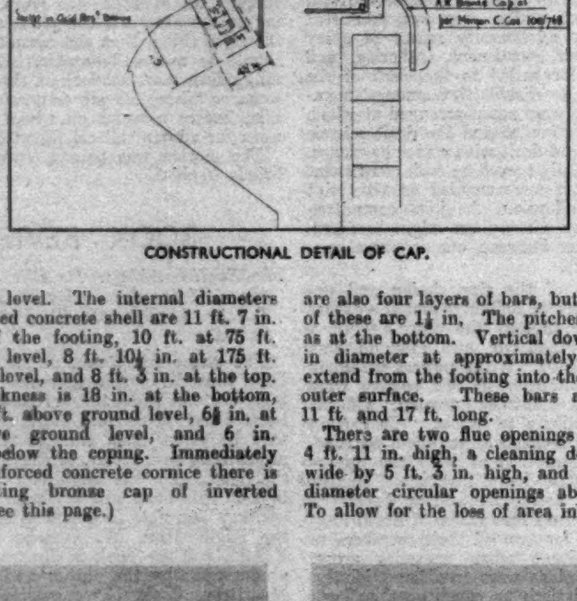
The foundation of the chimney is 35 ft. in diameter and has a thickness of 15 in. at the circumference. This thickness increases to 4 ft. 6 in. at the top, where the diameter is 14 ft. 7 in., the same as that of the outside of the shell. The bottom of the footing is 12 ft. below ground level and rests on 6 in. of plain concrete laid on the ballast.

In the bottom of the footing are four layers of 1¼-in. bars at 6-in. pitches. The first and second layers are at right angles, as also are the third and fourth, but the centre lines of the four bands are set at 45 deg. to one another, so that the whole circular area is reinforced. In the top of the footing there are also four layers of bars, but the diameters of these are 1¼ in. The pitches are the same as at the bottom. Vertical dowel bars 1¼ in. in diameter at approximately 5-in. centres extend from the footing into the shell near its outer surface. These bars are alternately 11 ft. and 17 ft. long.

There are two flue openings 3 ft. wide by 4 ft. 11 in. high, a cleaning door 2 ft. 9 in. wide by 5 ft. 3 in. high, and two 3-ft. 6-in. diameter circular openings above the door. To allow for the loss of area in the section of the concrete due to the openings the outer face of the shell was made elliptical in plan to a height of 21 ft. 6 in. Above ground level the major axis of the ellipse is 16 ft. 7 in. long and the minor axis 14 ft. 7 in.

Safeguarding Temperature Stresses.

So far as the temperature stresses are concerned, all sections of the shell were designed on the assumption of a temperature of 280 deg. C. in the flue gases and an external air temperature of 0 deg. C. Immediately inside the reinforced concrete shell acid-resisting slabs of blue asbestos, varying in thickness from 3 in. at the bottom to 1 in. at the top, were fixed; inside there is a 4½-in. firebrick lining supported on reinforced concrete corbels at vertical intervals of 30 ft. No



CONSTRUCTIONAL DETAIL OF CAP.

CONSTRUCTION AT 5.11.35.

CONSTRUCTION AT 15.11.35 (HEIGHT 90 FT.).

CONSTRUCTION AT 3.1.36 (HEIGHT 273 FT.).

FERRO-CONCRETE FACTORY CHIMNEY, BATTERSEA, S.W.

air space is provided. All the small holes left in the concrete have been filled with a special stopping, and the inside and outside of the chimney then painted with two coats of acid- and heat-resisting paint.

The vertical reinforcement is arranged at 5-in. centres throughout and varies in diameter from 1⅛ in. at the bottom to ⅝ in. at the top. The horizontal bars are arranged at 10-in. centres and vary from 1¼ in. at the bottom to ⅝ in. at the top. The whole of the shell was built of concrete mixed in the proportions of 1 : 1 : 2 by volume, using ordinary Portland cement.

The Foundations.

The foundations and the first 33 ft. of the shaft were constructed on orthodox lines. A 5-ton electric derrick crane was erected as close as possible to the site of the chimney to drive the steel piles in the cofferdam around the foundation, remove the spoil from the foundations, and erect the special concreting plant for building the shaft.

The foundation was built in a circular cofferdam, 35 ft. in diameter, composed of No. KII Dorman Long-Krupp steel sheet piles, driven through ballast into blue clay. Excavation was then carried down to a depth of 12 ft. 6 in. inside the cofferdam for the construction of the footing. The piles were delivered in pairs with stepped interlocks in order to avoid threading each pile over the top of the previous one. No pile frame was used. The first double pile was pitched in a narrow trench 7 ft. deep and then carefully plumbed by struts and packings in the trench and by rope guys at the top. It was then driven 10 ft. to gain rigidity. Further piles were then pitched and driven 5 ft. until the circle of 42 double piles had been similarly treated, the last pair interlocking satisfactorily with the first. The first pile was then driven a further 5 ft., as were the second, third, etc., working in an anti-clockwise direction until the bottoms of all piles were 51 ft. 6 in. below ground level.

The McKiernan-Terry No. 7 double-acting steam hammer used for driving the piles was provided with a specially wide anvil block with projecting lugs underneath to fit a double pile. Long and rigid leg guides were also fitted to the hammer so as to make it possible to leave it on top of a pile, either driving or stationary, thus releasing the crane for other work.

The bottom 33 ft. of the shaft, designed with extra thickness of concrete and extra steel reinforcement to compensate for flue openings, cleaning hole, etc., was shuttered with timber shutters in 4-ft. lifts. Tubular scaffolding and an outside hoist were used on this portion of the work.

The Shuttering in Operation.

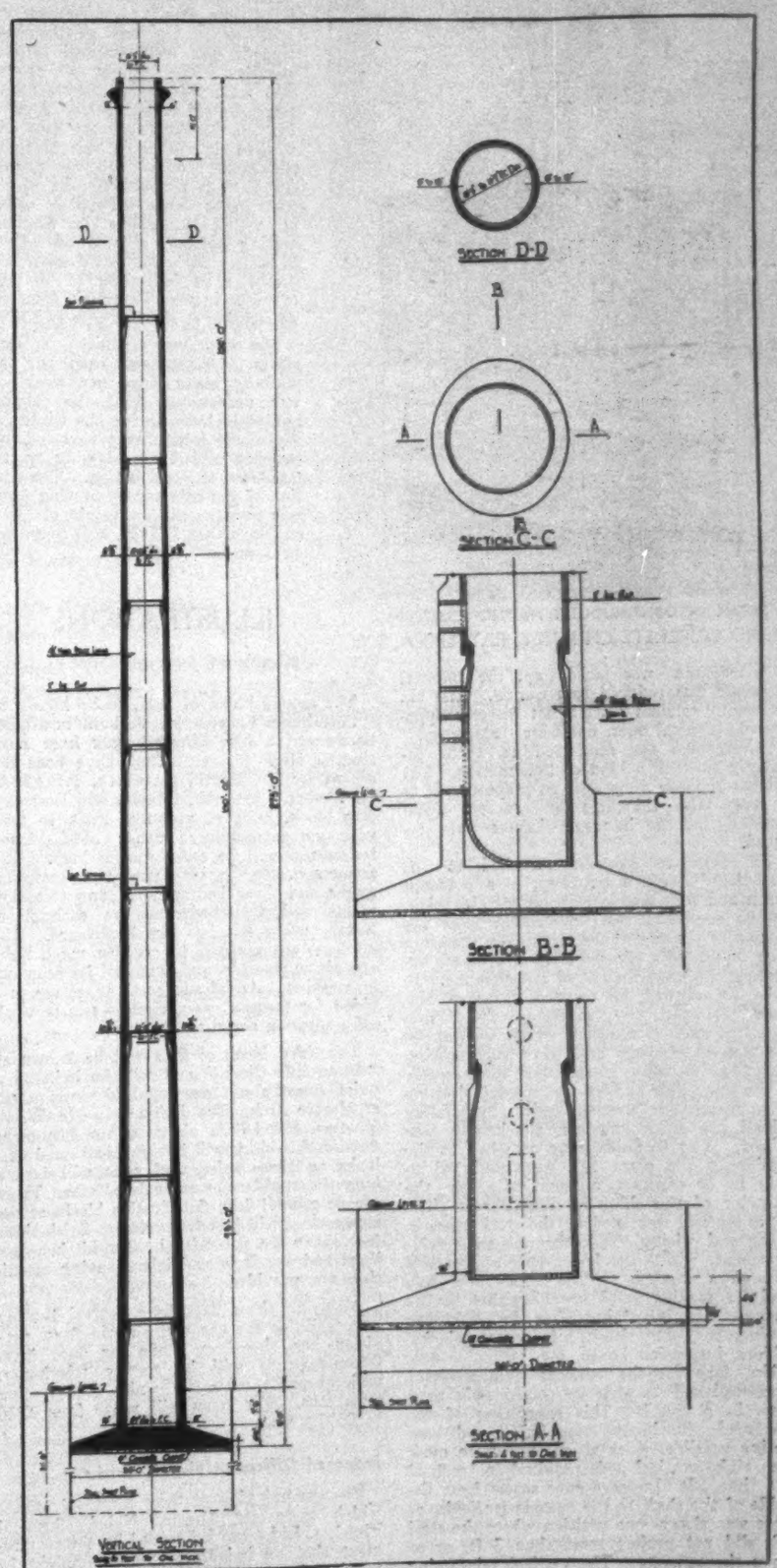
After the first 33 ft. of shaft had been concreted and the shuttering struck, the special concreting plant was erected with the help of the electric derrick crane. The outside tubular scaffolding was then dismantled and re-erected inside the shaft. The hoist well inside the shaft was formed by four tubular scaffolding standards braced firmly against the sides of the chimney with frames of ledgers at 6-ft. centres. The hoist was a 30-cwt. "ACE," fitted with over-winding and over-lowering cut-out switches and "broken-bond" emergency brakes. The hoist driver operated the hoist from the top, and a telephone was installed for communication between the driver and the men at ground level. The hoist was employed for raising men and materials, but an alternative access to the top was provided by ladders.

The plant is similar in principle to that used in Canada and elsewhere for the construction of silos, bins, etc. The shutters in the ordinary case are attached to yokes, the material of construction being mostly timber, and are kept continuously moving upwards by a jacking-device which grips on to steel rods embedded in the concrete already placed. Joints in the concrete, which are always a source of weakness, especially where there are boiler fumes, are avoided, and there is a saving in cost resulting from the absence of outside scaffolding and from the fact that one set of shutters is sufficient for the whole job.

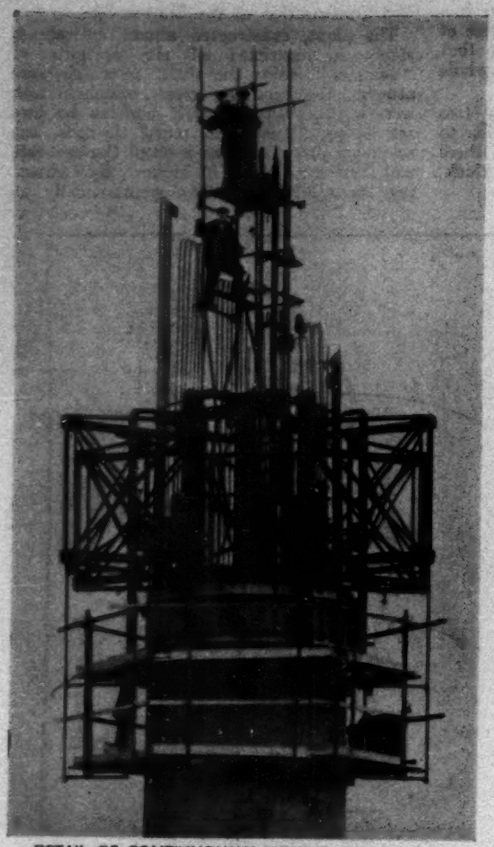
In the construction of this chimney two further motions were required in addition to the vertical jacking-up. The objects of these were to reduce the diameter and the thickness as height was gained.

The Construction of the Shuttering.

The plant, constructed almost entirely of steelwork, consisted of six uprights or "soldiers" inside the shaft, to which were attached the internal shutters, which in turn were kept in their correct position by two sets of six threaded horizontal tie rods, one set being just above the level of the concrete and the other about 8 ft. higher. By tightening these horizontal rods systematically as



FERRO-CONCRETE FACTORY CHIMNEY, BATTERSEA, S.W.: SECTIONS.



DETAIL OF CONTINUOUSLY MOVING SHUTTERING.
FERRO-CONCRETE CHIMNEY, BATTERSEA, S.W.

the machine was jacked up, the internal diameter was reduced as required. The six external 'soldiers" were not directly opposite the internal ones, but were "staggered" between them and connected to them indirectly through a kind of link motion. The lengths of these links were so proportioned as to vary the thickness of concrete automatically as the internal diameter was reduced.

The separate shutters attached to the "soldiers" were 4 ft. deep, of a constant width, and were lagged with boards 1 in. thick. In the course of their movement from the bottom to the top of the shaft they therefore each supported a parallel strip of concrete extending the whole height of the chimney. In order to support the tapered strips of concrete between the shutters, sheet iron shutters were introduced which overlapped the wooden shutters and were kept moving with them by being hooked over them loosely at the top. This allowed the wooden shutters to approach one another easily by sliding behind the metal shutters as height was gained. Two scaffolds were attached to the outside of the plant and were designed to slide in or contract automatically as the diameter of the chimney diminished. The upper scaffold was used by the steel fixers in fixing and wiring the horizontal steel reinforcement, whilst the lower one, approached through a manhole in the upper one, was used for making good any blemishes in the concrete and for fixing clips for lightning conductors, dog hooks for steeplejacks' ladders, inspection boxes, etc.

The laps for the vertical reinforcement were designed to step up, eight rods at a time, in a spiral. This staggering of the laps made continuous steel-fixing and concreting possible, since at no time were more than eight vertical rods required to be fixed at a time. It also gave easy access from the inside of the shaft to the outside scaffolds, as there was always one position where the steel rods did not project more than 3 ft. or so above the concrete. The vertical reinforcing rods were carried to the top by the hoist inside the shaft, but the camber on the circular horizontal rods, there being three to the circle, prevented them from being handled in the same way. They were therefore hauled up on a snatch-block and rope outside the shaft.

The Rate of Progress.

The concrete from the mixer was filled into small pails, which were sent up to the top on the hoist, tipped, and well rammed into the shutters. The supply of concrete was arranged to be continuous and corresponded to an average depth of 3 in. in the shutters every hour, that is, 6 ft. in 24 hours, this being the maximum rate of progress possible for a shaft of such slender proportions using ordinary Portland cement in winter conditions in England. During summer a rate of 9 ft. to 10 ft. per 24 hours would have been reached; an indication of the rate of progress may be gained from the illustration at the foot of page 594.

The work was organised for three shifts (of eight hours each) per day, working seven days per week. It was unfortunate that the chimney had to be built during the winter, as the severe gales, heavy rain and cold weather added considerably to the problems of construction. Construction of the chimney by moving forms was commenced at a height of 33 ft. on November 5, 1935, and completed on January 3, 1936.

ILLUSTRATIONS

(*Continued from page* 590.)

The second block of flats, to be known as "Cottesmore Court," will be built in a quiet backwater, a few minutes' walk from Kensington High Street. They have been designed by Mr. Gerald Unsworth, F.R.I.B.A. (of Messrs. Unsworth, Goulder and Bostock). The block, built of grey-rose brick to tone with the surrounding rather old-fashioned residences, will be seven stories high. The accommodation varies from two reception rooms and three bedrooms, to two reception rooms and five bedrooms on each floor. Nearly every flat has two bathrooms. The kitchens are planned to give as much light and air as possible, and arranged for economy in working. Aerial and earth plugs are provided for tenants' own wireless sets to work off a common aerial on the roof.

The third block of flats will be known as "Stourcliffe Close," and will be built in a quiet street about one hundred yards north of Marble Arch. The design is by Mr. W. E. Masters, F.R.I.B.A. Each of the fifty-eight flats in this block will have unobstructed outlooks on three sides, and none will face a busy thoroughfare or an enclosed area. There are no ground-floor flats in this block, as the garage roof will be constructed to finish three feet above the street level. The kitchens are light and spacious, and labour-saving amenities are provided.

Although these flats have central heating and facilities for gas and electric fires, provision has also been made for open fires. Other features will be service telephones, underground garages and refrigerating apparatus. The rents will range from £130 to £600 a year.

Proposed Offices at Slough, Bucks.

The general plan of these proposed offices, which were for Messrs. Nobel Chemical Finishes, Ltd., was influenced by the requirement that an indefinite extension might be required in the future. The lavatory blocks were, therefore, placed at the ends of the south-west and south-east wings of the building, to allow extensions to the corresponding wings on the north-west and north-east. A unit of 6 ft. 3 in. was chosen from centre to centre of window piers. Movable partitions were to be extensively used throughout the building, excepting the managerial department. The general construction was to be steel stanchions and girders, with hollow block floors; the external finish of Buckinghamshire hand-made bricks. The internal finish was to be carried out with Messrs. Nobel's own products.

The architect was Mr. A. B. Llewellyn Roberts, A.R.I.B.A.

A Lewes Shop Front.

This Georgian front, which is 150 years old, and was formerly in High-street, Lewes, has been presented to the Corporation of Hull by Mr. C. N. Pickup, of Lewes, and is being re-erected in the Old Times-street designed by Mr. T. Sheppard, the museums director. In this street over 30 early shops and their contents are being prepared for exhibition. The drawing is by Mr. Walter H. Godfrey, F.S.A., F.R.I.B.A.

"Studios One and Two," Oxford-street, W.

An ingenious and difficult work of reconstruction has recently been carried out at 225, Oxford-street, W. The old Cinema House, having a balcony, four floors of offices over, and in the basement a restaurant, has been entirely modernised, and the offices remodelled, and what was the restaurant is now another cinema, also complete with its balcony and the usual appointments of the modern cinema. The work involved the support of a building five floors in height, weighing many thousands of tons, while old steelwork, walls, floors, etc., were removed. "Studio One" will be devoted mainly to Continental films, and "Studio Two" to news, travel, cartoons, etc.

Messrs. Leslie H. Kemp, A.R.I.B.A., and F. E. Tasker, F.I.A.S., are the architects.

The contractors on this work are given on page 608.

Design for Reinforced Concrete Factory.

This design for a factory building in reinforced concrete, by Mr. G. E. Cassidy, was awarded the "Concrete and Constructional Engineering" Prize for Reinforced Concrete Design, given for competition at the Bartlett School of Architecture, London University.

The conditions of the competition were as follows: "An industrial company proposes to erect new works on a site facing a river. The land available measures 120 ft. by 80 ft.; additional land may be had for a wharf. The offices for the administration of the works measuring 600 ft. super should be arranged so as not to interfere with the structural lines. The factory consists of ground and first floors, each having an area of approximately 7,000 sq. ft. The upper story has a clear height not exceeding 12 ft., and is to be used for light machines; this floor would require top light. The ground floor is to be used for storage of raw and finished materials, the clear floor height being approximately 10 ft. The owners also desire the building to be an advertisement of the activities of the firm. It is essential, for example, to include a large inscription which could be illuminated at night. The surface treatment of the walls should be pleasant, and all forms of ornament should be made integral with the material of the structure. The study of appropriate ornamental decoration or patterning is to be an essential of the design; the owners attach supreme importance to a good result in this direction."

It will be noted that no cornice or applied decoration is used on the façade, and for architectural reasons it is desirable that this plain wall area should be given some relief. This is achieved by the use of grooved shuttering to form continuous vertical V-shape projections on the lower story and by triangular strips fixed to the shuttering for the upper story to form a pattern.

LAW REPORTS

COURT OF APPEAL.

Before the MASTER OF THE ROLLS AND LORDS JUSTICES ROMER AND GREENE.

ACTION BY SURVEYOR AGAINST HIS INSTITUTE UNDER APPEAL.

Faraday v. The Auctioneers' and Estate Agents' Institute of the United Kingdom.

In this case the plaintiff, Mr. Philip Michael Faraday, surveyor, valuer, and rating expert, of 77, Chancery-lane, W.C., appealed from the judgment of Mr. Justice Eve in the Chancery Division dismissing the action which he brought against the Auctioneers' and Estate Agents' Institute of the United Kingdom for a declaration that he had not violated one of the rules of the Institute, and for an injunction to restrain the Institute or its Council or officer from acting under a resolution purported to have been passed by the Council in December, 1934, and from suspending or expelling the plaintiff from membership of the Institute. (The proceedings at the trial were reported in *The Builder* of August 23, 1935.)

The action raised a point of construction of the following article of the Institute's Articles of Association, viz. :—

"No member shall establish or join either as principal or assistant any commercial firm or undertaking for the purpose of carrying on, or assisting to carry on, professional business as an adjunct to or in connection with the commercial business of such firm."

The resolution, which had been passed provided that unless certain things were done by Mr. Faraday he would be expelled from the Institute on a certain date.

It was alleged by the defendants that Mr. Faraday had been guilty of a breach of the rules of the Institute for the reason that he had entered into an arrangement with Messrs. Harrods, Ltd., of Brompton-road, S.W., of the following nature. At the time the quinquennial valuations were coming along, which raised points as to rating, and Mr. Faraday being an expert on rating, Messrs. Harrods had circularised their clients suggesting to them in connection with the quinquennial assessments that they might like to have Harrods' services, and stating that they had retained the services of Mr. Faraday. It was arranged that in cases in which they required Mr. Faraday's services Harrods' should quote a fee to their clients, and that they and Mr. Faraday should share the fee between them in certain proportions. The question for decision was whether or not that arrangement was contrary to the Articles of Association of the defendant Institute. The article or rule had been in force for a long time, and the short point was whether in the circumstances Mr. Faraday could be held to have joined Harrods as an assistant. Mr. Faraday's case was that he had in no sense broken the rule, and the defendants' case was that he had, as he must be held to have joined Harrods' as an assistant, and that the penalty was suspension or expulsion. Mr. Faraday alleged that all he had done was to act as an independent expert to give Harrods' the benefit of his services and advice under certain conditions. It was not suggested that Mr. Faraday had done anything wrong otherwise than breaking the rule.

At the trial Mr. Faraday, in giving evidence, said he had only been in Harrods once in his life, and that they exercised no control over him in the performance of his work. He also said he received no remuneration from Harrods apart from his fees, and that the work he did for Harrods apart from his firm's work was so trifling as to be almost negligible.

Mr. Justice Eve, however, after hearing the evidence called on behalf of the defendant Institute, held that Mr. Faraday, in the circumstances, had broken rules of the Institute, and he dismissed the action with costs. From this result Mr. Faraday now appealed.

The Institute at the trial agreed to defer the order for the expulsion of Mr. Faraday as a member of the Institute pending the hearing of the present appeal.

Sir William Jowitt, K.C., Mr. Lionel Cohen, K.C., and Mr. F. Grant, appeared for the appellant; and Mr. Gavin Simonds, K.C., and Mr. Roger Turnbull for the respondents, the Institute.

Lord Justice Greene, in delivering the considered judgment of the Court, and having reviewed the facts of the case, said Mr. Faraday challenged the validity of the resolution passed by the Council, and asked for an injunction to restrain the Institute from carrying out the resolution. The question the Court had to decide was whether or not, on the true construction of Article 38, Mr. Faraday had joined Harrods to assist in carrying on the commercial business they had in hand. It appeared that Mr. Faraday did all the work that was to be done in regard to rating appeals, and he had said that Harrods exercised no control over his work. Mr. Faraday, though admitting that he joined Harrods, contended that it was in the relationship of principal, and that he was free to exercise his professional skill. Having regard to the facts of the case the Court had come to the conclusion that in the circumstances Mr. Faraday must be held to have joined Harrods as an assistant in a commercial concern. The learned judge in the court below (Mr. Justice Eve) was right in dismissing the action. The Court now upheld that judgment and dismissed the appeal with costs.

On the application of Mr. Lionel Cohen, Mr. Faraday was granted leave to appeal to the House of Lords.

KING'S BENCH DIVISION.

Before MR. JUSTICE ATKINSON.

CLAIM TO BE INDEMNIFIED FOR COMPENSATION PAID TO INJURED WORKMAN AGAINST SCAFFOLDING CONTRACTORS.

Kleine Co., Ltd. v. London and Midland Steel Scaffolding Co., Ltd.

In this case the Kleine Co., Ltd., builders and manufacturers of patented fire-resisting floors, of New Oxford House, Hart-street, W.C., claimed a declaration that the defendants, the London and Midland Steel Scaffolding Co., Ltd., of Iddesleigh House, Caxton-square, S.W., were liable to indemnify them for compensation which they had to pay to a workman in their employ under the Workmen's Compensation Acts, the plaintiffs claiming to be so indemnified under the provisions of Section 30 of the Workmen's Compensation Act, 1925.

The plaintiffs' case was that they and the defendants were engaged in May, 1935, in contract work in connection with the extension of a building for the General Electric Co., Ltd., at North Wembley, Middlesex, the plaintiffs in laying and putting in the floors and the defendants in erecting the steel scaffolding. On May 25, 1935, George Wallace, a workman employed by the plaintiffs, in proceeding from the first floor of the building to the second floor, went up a ladder placed there and trod on a board about 4 ft. in length which broke, and as a consequence he fell 16 or 17 ft. and received such injuries as incapacitated him from working, and in respect of which injuries the plaintiffs had to pay him compensation under the provisions of the Workmen's Compensation Acts during the period of his disablement, and the amount which they had paid and were under a liability to pay they now sought to be entitled to be indemnified by the defendants on the ground that the board, having regard to its condition, was unsafe and unfit to bear the weight of a man treading on it.

The defendants pleaded, as a defence, that the accident to Wallace did not arise out of or in the course of his employment; that he had no right to be on the board; that he added to the peril of his employment by jumping on it; and that in the circumstances they had not been guilty of any breach of duty or of negligence and therefore were not liable to indemnify the plaintiffs for the compensation they had had to pay to their workman.

After hearing the evidence called on both sides, his lordship, in giving judgment for the defendants, said that at the time of the accident to Wallace the scaffolding was in course of erection, and the work on the first floor, so far as the plaintiffs were concerned, had been completed. It was contended, on behalf of the plaintiffs, that the defendants must have known, or be assumed to have known, that the plaintiffs' workmen would or might use the ladder and the board; but the defendants denied that and said there was no invitation by them for the men to use the ladder or the board. He (the Judge) said there was no evidence whatever that the defendants had placed the board in the position in which it was at the date of the accident; but even so, he could see no implied authority by the defendants for the plaintiffs' workmen to use the board. They had no right to use the board unless there was an invitation or licence from the defendants to do so. Upon the evidence which had been given he held that the plaintiffs' claim failed and there must be judgment entered for the defendants with costs.

Mr. Gilbert J. Paull appeared for the plaintiffs; and Mr. Richard Edgedale for the defendants.

KING'S BENCH DIVISION.

Before MR. JUSTICE MACKINNON.

BUILDER'S ACTION AGAINST SEWER CONTRACTOR FOR INJURY TO HOUSES.

Fairchild v. Robinson.

This was an action by Mr. Amos Fairchild, a builder, of Dunger Villas, Summers-lane, Finchley, to recover from the defendant, Mr. A. Robinson, of Kenton-road, Kenton, contractor, damages for injury caused to two houses belonging to the plaintiffs, viz., Nos. 2 and 3, Dunger Villas, through the alleged negligence of the defendant.

The plaintiff's case was that in September, 1934, the defendant was employed by the Finchley Borough Council to reconstruct a sewer which crossed the plaintiff's land. After the work began, certain cracks were noticed in the houses 2 and 3, Dunger Villas, and the plaintiff contended that these were caused through the defendant, in carrying out the work in connection with the sewer, failing to shore up adequately the side of the trench excavated by his workmen, and failing to take precautions to prevent earth from slipping down into the trench. The plaintiff also said that the struts used by the defendant were insufficient in number, and inadequate to support the weight of earth, and were not properly pinned to the wall to prevent slipping. It was alleged by the plaintiff that as a result of all this a settlement occurred to both his houses, which caused both internal and external damage.

The defence was a denial of negligence and liability. The defendant said that the plaintiff's two houses were built without adequate foundations, and alternatively that they were built upon foundations which did not go down to solid ground, but upon loose clinkers, coke and other rubbish incapable of supporting a house.

After hearing the evidence called on both sides, his lordship gave judgment for the plaintiff for £126 17s. He said the evidence showed that the cracks in the houses had only appeared after the excavation work had begun. He found that the foundation piers of plaintiff's houses went down to solid ground, and that the cracks in the houses were due to the inadequate shoring up during the work in connection with the sewer.

Judgment was accordingly entered for the plaintiff for £126 17s. with costs.

INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

We do not undertake to reply to inquiries concerning proprietary materials.—Ed.

QUESTIONS.

Bending Ash by Steaming.

Sir,—I have recently been trying to bend ash by steaming, but have up to the present had poor results. The size of the ash in section is about 1¼ in. by ¾ in., of various lengths. I have made a chest 14 ft. long by about 12 in. by 10 in., of 1-in. tongued and grooved boards red leaded and strapped together, having a door at each end. Steam enters through the bottom of the chest at end which is the lowest; the chest being slightly tilted to drain the water which accumulates inside. I can generate plenty of steam, and have steamed the ash for about four hours but still find it hard to bend to required sweep, which is a radius of about 2 ft. 2 in. I have clamped the ash to jig and let dry and left for a week, then released same, and they have sprung up and opened out of shape. I would be much obliged for information regarding this matter. Also, are there any books to be had on this subject?

Steam Bent.

Garden Stand Pipes: Makers Wanted.

Sir,—We have an inquiry for ¾-in. diam. garden stand pipes which must be self-draining so as to prevent them freezing. We should be very grateful if you can put us into touch with the makers or suppliers of these. We understand that these are common in Scotland.

Essex.

*** We shall be glad to put firms interested into communication with "Essex."—Editor.

Defective Floors in Dwelling House.

Sir,—I should be glad if you would let me know the best method of rendering badly laid floor boarding draught-proof without taking up and relaying. The floor boarding in question is not tongued and grooved, and it is believed that when laid the timber was insufficiently seasoned, as the boards have now contracted and are from $\frac{1}{16}$ in. to $\frac{3}{16}$ in. apart. In this connection it is thought that putty would be suitable for filling in the gaps, but I am not sure that it would give a permanent cure, or whether it would be suitable for stained floors, and I should therefore be glad of your advice on this matter.

E. F. D

Abandoned Building Scheme: Architect's Claim to Plans.

Sir,—I shall be glad if you will kindly advise me on the following matter:—

If I prepare plans on the instructions of a client for a building scheme and he does not go on with the scheme or even pay my fees, what is my legal position if I make use of the plans on the same site that he originally contemplated developing?

Architect.

ANSWERS.

Error in P.C. Items.

[Answer to R. S. W., March 13.]

Sir,—It should be borne in mind that all P.C. items in a contract are under the complete control of the employer or his architect. They can be taken out of the hands of the contractor altogether. If they are left in the hands of the contractor for him to order of sub-contractors or suppliers, then, bearing in mind that all the items in the bills of quantities are those items which must be done by the contractor and no more (unless they are paid for as extras), it follows that only £2, the amount extended to make up the lump sum on contract price, can be deducted against the £24 expended. Errors in extensions to all other items in bills of quantities, which are not P.C. items or provisional sums, are treated as a percentage on or off the lump-sum price or contract price in adjusting accounts. The corrections of errors made before the contract was signed does not rule out any subsequent errors which may be found, especially when the contract provides for errors in the bills of quantities being adjusted.

Lex.

Preservative Treatment of Old Oak.

[Answer to "Sussex," March 13.]

Sir,—It would be advisable first to give the beams two coats of either benzoline or camphor dissolved in paraffin oil at intervals of three days. This will kill any insect life liable to be present in old timber. The wood can be preserved and its natural appearance retained by the application of boiled oil well brushed in.

W. E. W.

WEEK IN PARLIAMENT

Verminous Materials.

Mr. Kirby asked the Minister of Health whether he was prepared to introduce legislation whereby vermin-infested old bricks taken from demolished dwelling-houses should be prohibited from use in the construction of new dwelling-houses of any kind.

Sir K. Wood said that in view of the power conferred on local authorities by section 82 of the Housing Act, 1935, to cleanse from vermin any house to which a demolition order or clearance order applies before it was demolished, he did not consider further legislation necessary.

Open Spaces.

Mr. Crowder asked the Minister of Health if he could state the number of open spaces which had been acquired by local authorities in pursuance of the campaign to establish a green belt around London; and whether there were any local authorities concerned which had not taken any action on the subject.

Sir K. Wood said that he regretted that the information sought was not in his possession. During the last four years, local authorities in the Greater London Area had been authorised by his department to acquire 6,556 acres of land for public open spaces or playing fields.

Ranelagh.

Mr. Astor asked the Minister of Health whether he would consider what steps could be taken to preserve Ranelagh as an open space.

Sir K. Wood said that Ranelagh was in private ownership and could only be kept as an open space if the owners chose to dedicate it as such, or if building was prohibited under the planning scheme now in course of preparation and compensation paid, or if it was acquired as a public open space. As far as he was aware, it was not suggested either that compensation should be paid from public funds to preserve the grounds for the use of the Club, or that the whole of the grounds should be acquired for the use of the public. The owners at present intended to keep open the central 30 acres, and they had entered into an agreement with the Barnes Borough Council giving the latter an option to purchase these acres if at any time building was threatened.

Decontrolled House Rents.

Mr. Hardie asked the Minister of Health whether, in view of the fact that where houses had been decontrolled, rents more than twice the normal were being charged, he would take steps to arrange for a method whereby those suffering could have some form of appeal.

Sir K. Wood said that his information did not support the suggestion that in general the rents of controlled and decontrolled houses varied to the extent indicated in the question, and he did not think that it would be desirable to introduce legislation for the purpose of reimposing control on decontrolled houses

Rating Statistics.

Mr. Wilson asked the Minister of Health whether he could furnish the latest return from rating authorities in England and Wales showing the amount of rates levied in the various classes of rateable hereditaments, distinguishing in the case of dwelling-houses those under or over £30 rateable value, and separating those which were dwelling-houses only from those connected with other premises.

Sir K. Wood said that according to returns made to his department the income from rates in the year ending March 31, 1936, was estimated to amount to £163,500,000. The returns did not distinguish the several classes of rateable hereditaments.

Overcrowding Surveys.

Mr. Maxton asked the Minister of Health how many Reports on the state of overcrowding in England and Wales he had now received; what percentage of the total number was still to come; and whether he would publish the facts now in his hands.

Mr. Shakespeare, who replied, said that local authorities were required to submit the results of their surveys by June 1. Up to the present the Minister had received reports from 59 authorities out of a total of 1,559. These reports covered 202,801 dwellings, of which 6,099 were overcrowded.

Replying to supplementary questions, Mr. Shakespeare said he regarded the progress as quite satisfactory, and he did not anticipate any case of default.

St. John's Lodge, Regent's Park.

Sir Cyril Cobb asked the First Commissioner of Works whether he had visited the St. John's Lodge, Regent's Park, building; and whether he was satisfied to allow it to remain in its present derelict state of disrepair, even though unoccupied.

Mr. Ormsby-Gore said that St. John's Lodge had now been let on lease to the London University for the purpose of an Archæological Museum, and the conditions of the lease provided for their putting the building into a satisfactory state of repair and for external painting.

Rural Housing.

Mr. Shakespeare told Mr. Quibell that 1,989 houses were built under approvals given under the Housing (Rural Authorities) Act, 1931, and were let at rents ranging from 3s. to 4s. a week.

BIRMINGHAM AND FIVE COUNTIES A.A.

"Architecture of the Theatre."

Members of Birmingham and Five Counties Architectural Association were addressed on March 11, by Mr. Theodore Komisarjevsky on "The Architecture of the Theatre." Mr. Komisarjevsky said that the theatre should be attractive and the seating such as would enable everyone comfortably to see everything that happened on the stage. The modern theatre did not fulfil those conditions because the architect was bound by the requirements of the so-called managers, who usually had bad tastes and had fancies and ideas which had nothing to do with the theatre. Usually those managers had "cliches" and they wanted to emphasise how rich they were and how marvellous the place was. Those defects were apparent in all countries.

There were two different kinds of theatre—the theatre for stage plays and the building used as a cinema. Different principles had to be applied by architects, but it often happened that the buildings were similar in type. Unfortunately, architects repeated the bad architecture of theatres over and over again, and forgot that theatrical construction had not changed very much since the seventeenth century. Many modern theatres were replicas of those of the seventeenth century. Modern theatrical technique demanded many changes. In his opinion, there should be no boxes or gallery, no partition between one section of the people and another, and he felt that the requirements of the play should be met by an adequate stage with ample lighting.

THE BUILDING TRADE

BUILDING LAWS AND REGULATIONS—XII

By B. PRICE DAVIES, F.S.I., M.T.P.I.
(Author of "Estimating for Buildings and Public Works.")

MARKETS

Sections 166 and 168 of the Public Health Act of 1875 deal with Markets, and the provisions of the Markets and Fairs Clauses Act of 1847 are incorporated. There is little of the constructional in these provisions.

The Model By-laws for Markets (1932) issued by the Ministry of Health are also more concerned with the maintenance of markets than with their constructional arrangements.

The following extracts are of interest, and the floor areas per animal may prove to be useful for other purposes as well.

Interpretation of Terms.

"1. *'Cattle' includes horse, ass, mule, ram, ewe, wether, lamb, goat, kid or swine. 'Goods' includes provisions, marketable commodities and articles.*

'Stall' includes building and standing, and 'Sell' and 'Sale' includes exposing and exposure for sale."

"6. *A person shall not place or cause to be placed in any pen in the market place a greater number of animals than will afford to each at least the superficial space set out below:—*

	ft.	in.	ft.	in.
For every horse, ox or cow	8	0	by 2	0
For every calf, mule or ass	5	0	by 1	3
For every ram, ewe wether, lamb, goat, kid or pig	4 *superficial feet."*			

Accommodation for weighing cattle is to be provided in markets according to Section 4 of the Markets and Fairs (Weighing of Cattle) Act of 1887, unless the Market is exempted by the Board of Agriculture, and this by the provisions of the later Act of 1891. The provision of accommodation for weighing cattle is emphasised by the still later Act of 1926.

An Order which calls for constructional work is that of 1925; some extracts from it are quoted, thus :—

"*Order of the Minister of Agriculture and Fisheries dated December 23, 1925.*

Markets, Sales and Lairs Order of 1925.

"*The Minister of Agriculture and Fisheries, by virtue and in exercise of the powers vested in him under the Diseases of Animals Acts, 1894 to 1925, and of every other power enabling him in this behalf, hereby orders as follows:—*

Paving of Markets, Saleyards, etc., Used for Animals.

"1. (1) *No market, fair, or sale of animals shall be held in or upon any market-place, fair-ground, highway, saleyard, or other premises on any day until after the expiration of twenty-four days from the date on which the premises or any parts thereof were previously so used, unless the premises or a part thereof sufficient to accommodate the number of animals usually exposed at such market, fair or sale, are so paved with cement, concrete, asphalt or other hard material impervious to water, as to permit of the same being effectually cleaned by washing, and are at all times maintained in that condition.*

(2) *On every occasion of a market, fair or sale of animals held on premises to which this Article applies, the animals shall stand or be penned as far as practicable on the paved accommodation required to be provided under this Order.*

(3) *This Article shall not be deemed to prohibit the holding of any fair under lawful authority on two or more consecutive days.*

Paving of Lairs Adjoining Markets and Saleyards, and Regulation of Lairs by Licence.

"2. (1) *No lair adjoining premises on which or on any part of which a market, fair or sale of animals is held at intervals of twenty-four days or less shall be used for the reception or temporary detention of animals before or after their exposure for sale on such adjoining premises, unless*

(a) *the lair is so paved with cement, concrete, asphalt or other hard material, impervious to water as to permit of the same being effectually cleansed by washing and is at all times maintained in that condition; and*

(b) *the use of the lair for that purpose has been authorised by a licence of the local authority which shall not be granted unless the local authority are satisfied after inquiry that the provisions of this Article with regard to the paving of the lair have been complied with.*

(2) *A licence granted under this Article may be cancelled at any time by a notice served upon the occupier of the lair (or upon the person to whom the licence was granted) by an officer of the Ministry or of the local authority if the surface of the lair is not, in the opinion of the Minister or of the local authority, as the case may be, maintained in the condition required by this Article.*

(3) *This Article shall come into operation on the first day of July, nineteen hundred and twenty-seven."*

Interpretation.

"6. *In this Order, unless the context otherwise requires:—*

'Animals' means cattle, sheep, goats and swine.

'Lair' means a building, erection, pen, yard or other enclosure used for the reception or temporary detention of animals before or after their exposure for sale, but does not include a grass enclosure."

GARAGES AND PETROL STATIONS.

The model building by-laws allow certain privileges (associated with isolation) for a garage of a floor area of not more than 300 ft. super. This size will accomm date not more than two cars and might be designated a small garage, and a larger size might be termed a large garage, while a proprietary garage on a commercial basis might be termed a commercial or very large garage.

The maximum sizes of vehicles allowed by Government Regulations should be borne in mind when footway crossings and doorways for large (or very large) garages are designed. The Public Service Vehicles (Conditions of Fitness) Regulations, 1931, give some useful overall dimensions, which are quoted, thus :—

Type of Bus.	Maximum overall dimensions allowed. Length.	Width.	Height.
Single Deck—			
4 wheel ...	27′ 6″	7′ 6″	10′ 6″
6 wheel ...	30′ 0″	7′ 6″	10′ 6″
Double Deck—			
4 wheel ...	26′ 0″	7′ 6″	15′ 0″
6 wheel ...	30′ 0″	7′ 6″	15′ 0″

This maximum height of 15 ft. accounts for the 16 ft. minimum headroom for bridges over roads required by the Ministry of Transport.

Commercial vehicles follow similar rules as to sizes.

An ordinary four-seater motor-car is about 13 ft. 6 in. long, 5 ft. 3 in. wide and 5 ft. 6 in. high. These dimensions include for front and rear buffers.

For openings and garaging of petrol vehicles, clearance space should be allowed.

Garages and Petrol Stations rank as factories (or shops) from the standpoint of legislative control other than as controlled by Petrol Acts, Regulations and By-laws.

They are inevitably associated with the storage of petrol, whether in the reservoirs of the vehicles themselves or in storage tank. The Petroleum (Consolidation) Act of 1928, and its subsequent Orders of 1929, provide important legislation in this direction.

The storage of petrol for vehicles in buildings needs to be licensed, and the precautions concerning same are considerable.

Section 10 of the Act refers to the Regulations, and Section 11 to by-laws which can be made by the local authority for regulating the appearance, location, or prohibiting petroleum filling stations. The possibility of the existence of local by-laws should be considered by anyone contemplating the erection of such a station. The by-laws can only be issued by county and borough councils, but urban district councils can enforce the by-laws of the county council within their own district.

The following interpretation of selected terms from the Act may be of interest :—

"*'Amenities' in relation to any place includes any view of or from that place.*

'Licensed premises' means any premises in respect of which a petroleum-spirit licence is in force under this Act.

'Motor vehicles' includes all mechanically propelled vehicles intended or adapted for use on roads.

'Petroleum' includes crude petroleum, oil made from petroleum, or from coal, shale, peat or other bituminous substances, and other products of petroleum.

'Petroleum filling station' means any premises or place used or intended to be used by way of trade or for purposes of gain for fuelling motor vehicles with petroleum, and includes any building, advertisement, pump or other apparatus in, or used in connection with, any such premises.

'Petroleum-spirit' means such petroleum as when tested in the manner set forth in Part II of the Second Schedule to this Act gives off an inflammable vapour at a temperature of less than seventy-three degrees Fahrenheit.

'Petroleum-spirit licence' means a licence authorising the keeping of petroleum-spirit granted by a local authority empowered under this Act to grant such a licence or by the Secretary of State."

"Petroleum-spirit" is the correct name for the liquid more popularly known as "petrol."

The Petroleum-spirit (Motor Vehicles, etc.) Regulations of 1929, No. 952, contain the following information :—

A licence is not required for the ordinary use of petrol for a motor-car or motor-boat. Yet the storage of petrol, even in a car, calls for the precautions, which are quoted, thus :—

"5. *The petroleum-spirit shall not be kept in any storage place which does not comply with the following requirements, that is to say:—*

(a) *The storage place shall, unless it is in the open air, be effectively ventilated to the open air;*

(b) *There shall, unless the storage place is in the open air, be an entrance thereto direct from the open air;*

(c) *In the storage place, or as near thereto as is reasonably practicable, there shall be kept fire-extinguishing apparatus of a type capable of extinguishing fires occasioned by burning petroleum-spirit, or a supply of sand or other effective means for extinguishing such fires;*

(d) *The storage place shall not form part of or be attached to any building used as a dwelling-place or as a place where persons assemble for any purpose unless it is separated therefrom by a substantial floor or partition which*

(i) *is constructed of material not readily inflammable; and*

(ii) *has no opening therein, so, however, that in the case of a storage place in*

which the only petroleum-spirit kept, in addition to that contained in the fuel-tank of any motor-vehicle, motor-boat, aircraft or engine, is kept in not more than two vessels of capacity not exceeding two gallons each, there may be an opening in any such partition (not being a floor) if the opening is fitted with a self-closing door constructed of hard wood or other fire-resisting material;

(c) The storage place, if in any building, shall not be situated under any staircase or under any other means of exit likely to be required to be used for escape in case of fire unless it is separated therefrom by a substantial floor or partition conforming to the requirements contained in sub-paragraphs (i) and (ii) of the last foregoing paragraph."

The dividing floor or partition is to be not necessarily of fireproof material, such as a 9-in. brick wall or a reinforced concrete floor, but "of material not readily inflammable." This can be a mortar ceiling or a 3-in. brick-nogged partition, but it would be wise to err on the side of safety in designing the buildings.

The "self-closing door" would be a door which, if fitted with a spring, would close automatically.

WORKMEN'S COMPENSATION

INCAPACITY FROM ACCIDENT: UNCONNECTED ILLNESS.

In our Legal Section, February 28, we noted in some detail the cases under the Workmen's Compensation Act which related to "accident or disease," but since that article was written this question has come before the House of Lords in the case McCann *v.* Scottish Co-operative Laundry Association, Ltd. (*The Times*, March 4), and although the decision in this case in no way affects anything dealt with in that article, it carries the matter a little farther. The applicant, while working in a steam laundry on December 11, 1930, had sustained an injury, in consequence of which she had lost her right index finger, and the thumb on the same hand had become stiff and shrivelled. She was paid compensation as for total incapacity down to February 23, 1932, when she became fit for light work, and the respondents supplied her with such work at her former wage, viz., 28s. per week. She performed this work until November 14, 1932, when she was removed to hospital suffering from appendicitis, by which she was rendered unfit for work until May 31, 1933. The arbitrator in these circumstances had found that during the period November 14 to May 31 she was entitled to compensation for partial incapacity, and had awarded her 9s. 6d. per week. During that period the respondents had suitable light work available for which they were willing to pay her 28s. per week. The First Division of the Scottish Court of Session had set this award aside.

The House of Lords reversed this decision, and affirmed the award of the arbitrator. The House found that the incapacity from injury continued during the incapacity from illness, and the fact that the applicant had since suffered from an indisposition unconnected with the accident which prevented her from working could not possibly by itself disentitle her from receiving compensation; but it had been contended that this, coupled with the offer of work, had that effect. If a workman was himself to blame for his failure to accept an offer of work that might well preclude him from recovering compensation, but where old age or illness unconnected with the accident rendered him unable to accept the offer, it was impossible to hold that his claim to compensation was in any degree satisfied.

It was pointed out in the judgment that in a case not cited to their Lordships, Stowell *v.* Ellerman Lines (1923, 16, B.W.C.C. 46), the first of the above points had already been decided by the Court of Appeal, on facts closely analogous to those in this case, the effect of that decision being that a workman is not disentitled to compensation during disability from an inqury by accident merely because subsequently he becomes totally incapacitated by a disease unconnected with the accident.

A NEW SYSTEM OF REINFORCED CONCRETE CONSTRUCTION

We have received the following particulars of a new system of construction, including floors and structural units. In its complete form the construction visualises a system which may be described as self-centering tile-encased reinforced concrete, in which the use of shuttering is obviated by the employment of certain patent tile encasing units which enclose the concrete filling during construction and act as a fire protection thereafter.

It is claimed that this system of building results in the retention of the advantages of reinforced concrete construction in the matter of economy and structural continuity, with the added advantage of speed, avoidance of obstruction caused by timber shuttering, efficient fire protection of the structural unit, and the provision of a uniform interior surface of tiles suitably prepared for plastering. The design of the structural work, which is shown in the illustration of a typical working drawing (page 602), is based on the principles of ordinary reinforced concrete.

It appears that in the construction, tee-beams are mostly employed for the tensional steel, and that on the tee-beams are suspended specially made soffit tiles of burnt clay, with a compo. bed between the steel and the tile. The sides of these beams casings are then built up in hollow tile or brick, and the flooring is constructed with similar tiles supported from tee-steels and filled with rebated hollow tiles between the structural members.

The columns are shown to be constructed with a series of flat steel members arranged to be bolted from tier to tier, with channels bolted on to the flats at the level required to support the tee-beams. The connection of the tee-steels to the channels, it is stated, provides continuity in the compressional reinforcement over the point of support, and tensional continuity is obtained in the usual manner by means of rods. This arrangement of flat verticals leaves a free space for the continuity rods.

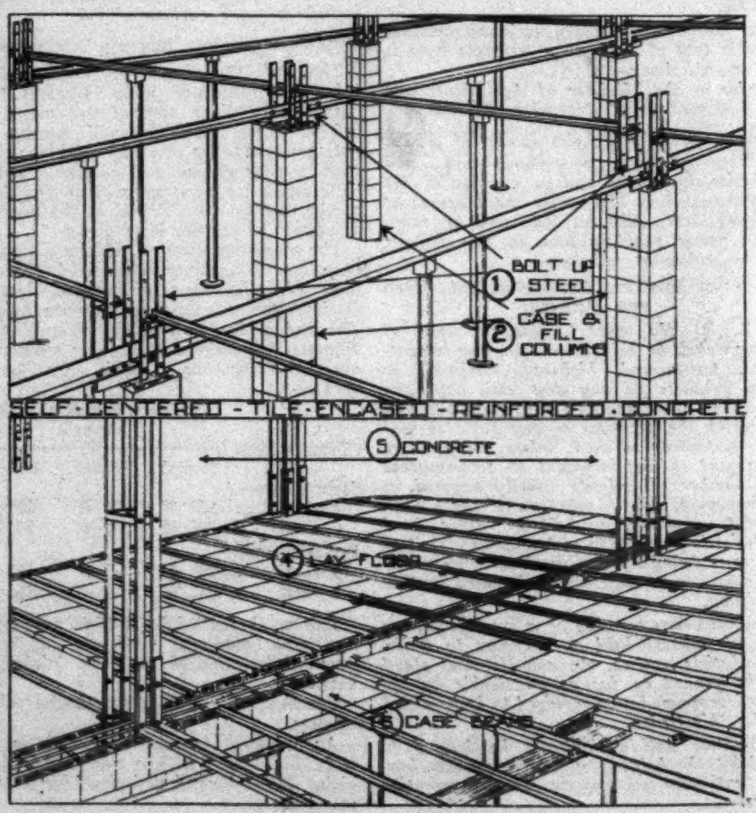
When this skeleton construction has been erected, the concreting of the whole results in a reinforced concrete structure wherein the tees act as the main tensional unit and the concrete as the compressional unit. The system is, in fact, a light form of structural steel, easy to erect, which becomes reinforcement for the concrete in the completed work.

The process of erection may be outlined in five stages, as shown on the accompanying perspective diagram, viz.: (1) Bolting up the steel framing; (2) Encasing columns with purpose-made tiles and filling with concrete; (3) Encasing beams with self-suspending purpose-made soffit tiles and building sides up to the level of floor soffit; (4) Laying the floor skeleton; (5) Concreting.

This process of erection completes one floor stage in the building, and subsequent stages follow in similar manner. A series of "Tube-shors" or other temporary intermediate struts are the only form of temporary support required, and each floor when erected comprises a complete unit ready and clear for other trades.

It is claimed that by means of this method of construction a substantial saving is effected, because only one-fifth of the metal is required as compared with ordinary steel framing to achieve equal results as to strength. It is pointed out that besides this saving in material, no heavy plant is required for erection, and the complete structure, beams, columns and floors going up in one operation, all without timber shuttering, will result in a substantial saving of time even in comparison with ordinary structural steel with subsequent casing and flooring.

The system of construction, which is protected under Letters Patent Nos. 389,579, 423,881, 441,025, and Provisional No. 5,798, is in accordance with the design and specification of Mr. W. G. Shipwright, Victory House, Leicester-square, W.C.2, and arrangements have been made for the supply of the complete structural unit from Messrs. Mansfield and Oakes, Ltd., Drayton House, Gordon-street, W.C.1.



BUILDING RESEARCH STATION
QUESTIONS AND ANSWERS

THE following extracts of inquiries* represent a number of those recently submitted to the Building Research Station. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry, and are not necessarily suitable for general application to all similar problems.

The "Properly Constructed Cavity Wall."

Referring to a statement recently made by the Building Research Station, an architect wished to have further information regarding what constituted a "properly constructed cavity wall." He particularly desired the views of the Station on the question of detailing at jambs of openings in walls of this kind.

REPLY.—The construction of cavity walls, and, more particularly, the design at openings, involves many factors of a practical nature which vary widely from one case to another. It is not, therefore, easy to make definite recommendations on the points raised, and the most that can be done is to indicate the main principles which should be followed if it is desired to utilise to the full the peculiar advantages of this form of construction.

The question refers to penetration of moisture, and from this point of view the primary purpose of the cavity is to break the capillary contact between outer and inner faces of the wall. Wherever the cavity is bridged there is danger of this advantage being lost. Thus, the accumulation of mortar droppings on wall ties and the use of ties of unsuitable design are frequent causes of penetration through cavity walls.

It is found, however, that while these facts, and the precautions which they necessitate, are generally appreciated, the practice of building solid jambs to openings is fairly common. It is obvious that this is at the best a compromise, and some of the reasons put forward for its adoption are: (*a*) The necessity for stability and support throughout the thickness of the wall when heavy lintels are to be carried; (*b*) protection of the backs of wooden frames from the effects of contact with moist air in the cavity; (*c*) provision of solid backing for jamb linings when window or door frames are fixed clear of the cavity.

It is appreciated that in some cases special precautions may be necessary to satisfy these requirements, but it is to be recommended that when this is done equal care should be taken to avoid lowering the weather-resistance of the wall at any point. The methods employed would, of course, depend upon the thickness of the wall and on the type and position of frame used. The following notes and sketches are, however, offered as simple illustrations of the principles which should be adopted wherever possible.

It is doubtful whether (*a*) and (*b*) mentioned above are considerations of great importance. Adequate stability at jambs can usually be obtained by the use of a sufficient number of wall ties, but if solid jambs are required to provide even bearing for lintels they may be built as suggested in sketch (1), incorporating a vertical damp-proof course of slate. Similarly, it is unlikely that the risk of dry-rot in wood frames would be markedly increased by exposure to damp air in the cavity, though, if desired, a protective covering of slate or bituminous felt may be placed over the end of the cavity in the manner suggested in sketch (2).

When the presence of an open cavity would cause difficulty in the fixing of jamb linings detail (1) may be adopted. Alternatively, a vertical damp-proof course of slate fixed over the end of the cavity would form a suitable backing for a plaster finish.

Identifying Causes of Dampness in Buildings.

Penetration of moisture through walls and condensation in buildings have each been dealt with previously in these notes, but it must be recognised that in many cases of dampness in buildings it is by no means evident which of these causes must be considered the main source of trouble. When doubt of this kind arises, careful attention must be paid to details of construction, to the effect of variations in weather conditions and to the nature of the appearance of the dampness. The liability to penetration through exposed parts of a building naturally increases during rain, whereas condensation is dependent upon the presence of moisture vapour in the air and the relative temperatures of the air and walls.

An example of this type of problem is provided by an inquiry from an architect concerning serious dampness in a house built in an exposed situation on the south coast. The external walls consisted of two thicknesses of brickwork, built 2 in. apart, and having the interspace filled with waterproofed cement mortar. Possibly on the assumption that this form of construction would provide adequate protection against penetration, dampness of the interior surfaces was attributed by the inquirer to condensation. Before an opinion was expressed on the matter, an inspection of the house in question was made during a spell of wet weather by an officer of the Building Research Station.

REPLY.—It is understood that the house is essentially a summer residence, and is vacant during most of the winter months. At the time of the inspection all windows were closed and there was no heating.

The walls of the majority of rooms on the ground and first floors were very damp to the touch; there was evidence of heavy condensation in the form of drops and runlets, and there were also traces of local penetration at sills, jambs and heads of windows. The south walls facing the sea seemed to be rather worse than the other walls, and it was noticed that the wall behind a lavatory splash-back in one of the bedrooms had become very wet indeed, and discoloration and efflorescence were spreading out from this area. The dampness of the walls would be judged to be due in part to local penetration, partly to condensation and partly to general penetration, though it is difficult to speak with certainty on the latter.

It is desirable to consider the properties of the materials employed in the form of construction used in this case. The bricks themselves have a porous, capillary structure, and, under the severe conditions of exposure prevailing in this particular instance, would freely transmit moisture to the inner face. The only barrier to transmission is the layer of waterproofed cement mortar; if this were actually impervious, and could be made continuous under ordinary building conditions, it would no doubt be effective. It should be noted, however, that a waterproofed cement mortar is not completely impervious even when made under the most favourable conditions in the laboratory. Tests carried out at the Building Research Station on cement mortar treated with commercial waterproofers show that the effect of the waterproofer is to reduce considerably the rate of absorption of water, but not to prevent it completely. With a building in normal occupation, heated and ventilated, it is possible that the amount of water actually penetrating would be such as could be removed by evaporation at the inner face so that the walls would not appear damp to the touch and no complaint would arise. Even this, however, postulates ideal conditions which will rarely obtain in practice. The waterproofed mortar is sandwiched between two highly absorbent layers of brick, and however carefully the mix is controlled, its final properties will be modified by the loss of water absorbed by the brickwork. There is, moreover, the danger of penetration through cracks in the filling caused by drying-shrinkage and by inadequate bonding between successive days' work.

For a building such as this, with the combined adverse influences of severe exposure and lack of heating and ventilation for long periods, it is considered that the most appropriate form of construction would be a cavity wall with the cavity bridged only by the minimum number of wall-ties required for stability, and carefully kept free from mortar.

As a remedial measure in the present instance, however, it is probable that the application of an independent wall-lining would be the most satisfactory treatment. This is the normal practice in Scotland, where conditions of exposure are often severe and solid walls the general rule. Since the wall behind the lining will be very wet in the winter months, it is desirable to work out a lining system which will not deteriorate unduly under wet conditions. It is suggested that a treatment on the following lines might be tried: The walls should be plugged and the plugs cut off just clear of the face of the wall. Deal battens should be fixed to the plugs, battens and plugs being liberally treated with a non-staining fungicide. Wood laths or metal lathing should be attached to the battens, and a plastered finish applied. For this an undercoat of cement and sand, or cement, lime and sand would be recommended, with a gypsum plaster finish.

Sound Insulation and Absorption.

A firm of architects submitted sketch plans of a hospital building, requesting advice on the precautionary measures which might be taken to ensure as far as possible freedom from disturbance due to sound transmission. The building was of two stories, and it appeared that in planning due regard had been paid to the reduction of disturbance due to noise. The ground floor was occupied by

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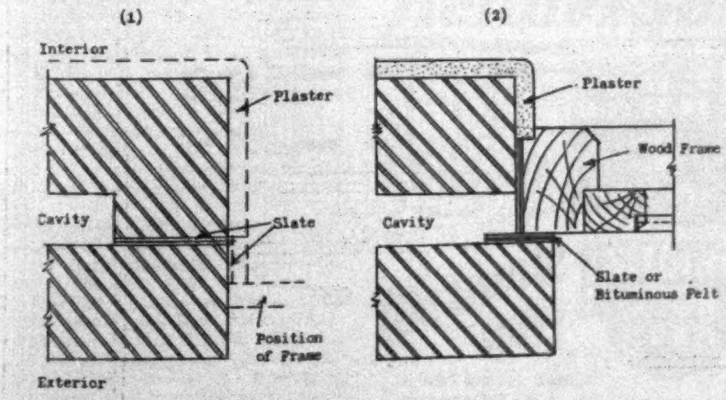


PLANS AT JAMBS.

(See QUESTION ON "PROPERLY CONSTRUCTED CAVITY WALL.")

operating theatre, kitchens, recreation rooms, etc., and the upper floor consisted chiefly of wards. Indication was given of a preference for floors of precast concrete beams, and guidance was sought particularly in the selection of floor and ceiling finishes and of materials for partitions.

REPLY.—In considering problems of noise reduction in buildings, it is useful in the first place to distinguish between sounds which originate as wholly air-borne sounds and those which may originate from impacts on the structure itself. Conversation is typical of the former class, while the commonest examples of the latter class are probably footfalls.

It appears that in the building under consideration the majority of rooms in which quietness will be desired are situated on the upper floor, so that it is likely that the problem will be confined to the reduction of air-borne noise transmitted from room to room on the upper floor and upwards from the ground floor.

With regard to transmission throughout the upper floor, it should be pointed out that more sound is likely to pass from room to room by way of doors and corridors than through partitions. In addition, some disturbance might be expected in the wards on account of the noises of footsteps in the corridors. It is suggested, therefore, that precautionary measures should be considered in the following order :—

(*a*) Fit doors of as heavy a type as is practicable, and pay particular attention to making them tight-fitting. Air-tightness at the head and sides can usually be achieved by the addition of felt strips fixed to the rebate of the frame, and at the foot by means of one of the commercial "draught preventers," or by ramping the floor slightly on each side, and fixing a strip of felt to the bottom of the door itself.

(*b*) Apply a resilient floor finish in those parts where most traffic is likely to occur. The corridors would, no doubt, demand chief attention in this respect, and some such finish as sponge-backed rubber would be useful.

(*c*) Take special precautions in the construction of partitions between wards. In this connection it should first be pointed out that, so far as single partitions are concerned, practically the only factor affecting sound transmission is weight of partition per unit area, and not the nature of the material composing it.

It is found that considerable misunderstanding exists on this point, and that *sound-absorbent* materials are frequently assumed to be essentially good *sound insulators*. Sound absorption is a property of a surface and is measured by the extent to which the reflection of sound is restricted; it has no relationship to the ability of the backing material to transmit sound.

As far as sound insulation is concerned, weight is the only factor which need be considered, and the choice of a material for the construction should be governed by such factors as allowable thickness, moisture movement and strength (if partitions are load-bearing). It is difficult to fix a standard for the weight of partition necessary between small wards, but certainly nothing lighter than brickwork 4½ in. thick should be used. The consideration of weight alone does not apply to double partitions, whose construction was discussed in a previous note from the Information Bureau of the Building Research Station.

In considering the transmission of noise upwards through the floor, it may be assumed that the reduction of air-borne sound afforded by most normal types and thicknesses of reinforced concrete floors will be of the same order as that of 4½-in. brickwork. While it cannot be stated that the floor construction proposed would be sufficient to produce the required silent conditions in all parts of the building, it is not possible in the present state of knowledge to suggest an economic alternative which could be relied upon to be markedly better. It is suggested, however, that useful results would accrue from the use of sound-absorbent finishes to walls and ceilings in certain parts of the ground floor, since by this means sounds emitted in these rooms would not build up to such high intensities as if hard, reflecting finishes were adopted. In this connection, attention might be drawn more particularly to the recreation rooms and to a covered entrance-way for cars, both of which lie immediately under the wards. Hangings and upholstery are also good sound-absorbents, which, in furnished rooms, would be useful in this respect.

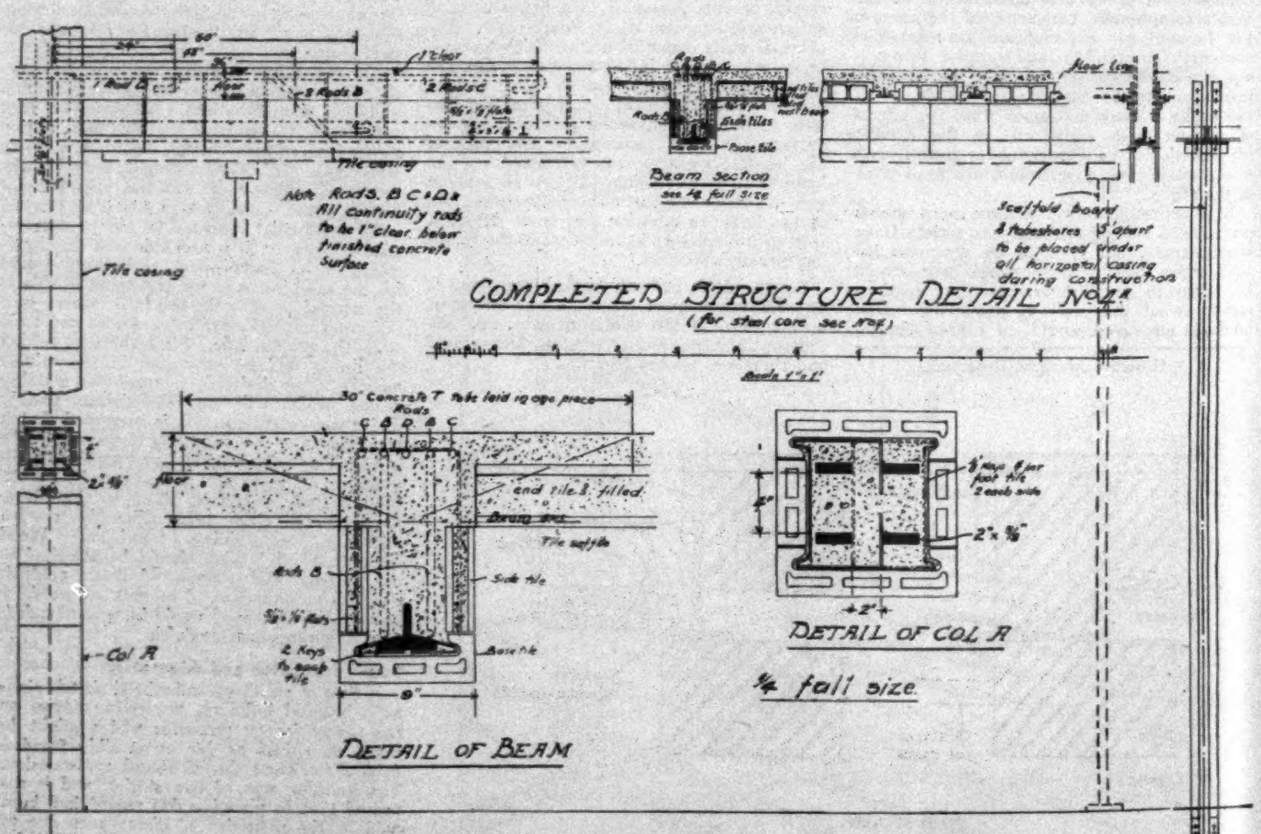
Information regarding sound-absorbent materials which may suitably be applied to walls and ceilings is available in most text books on acoustics.

Thermal Expansion of Asphalted Roofs.

It has been reported to the Station that there is reason to believe that some misunderstanding has arisen in connection with previous references in notes from the Information Bureau of the Building Research Station to thermal movements in concrete roofs covered with asphalt.

Further work on this question has recently been carried out, from which it appears that whilst an asphalt mastic is a good absorber of solar radiation, data now available indicate that the presence of a mastic does not necessarily increase the stresses in the sub-roof. In the case of concrete or hollow-tile sub-roofs, closely similar temperature conditions obtain at the face of the concrete under the influence of solar radiation, whether the concrete be covered with asphalt mastic or not. The extra heat absorption of the asphalt surface appears to be largely counter-balanced by the thermal capacity of the asphalt layer.

Considerable advantage can, however, be derived by the provision of a light-coloured upper surface which reflects heat. This applies not only to asphalt mastic, but to any type of flat roof covering. The subject will be discussed in more detail in a Bulletin dealing with the use of asphalt mastics for roofing, which it is hoped to publish in the near future.



"A NEW SYSTEM OF REINFORCED CONCRETE DESIGN." (See page 600).

NEW BUILDINGS IN LONDON

ACTON.—Garages.—Mr. E. J. W. Hider, F.R.I.B.A., 11, Avenue-chambers, Southampton-row, W.C.1, has prepared plans for new garages in Brougham-road, W., for Messrs. B. E. Shuttle and Co.

ALPERTON.—Offices.—With flats over are proposed on site at Artcraft Works in Ealing-road opposite Alperton Station. The application has been submitted by Mr. McLean on behalf of Messrs. Atkins, Ltd.

BALHAM.—Hall.—The Wandsworth B.C. has approved an application submitted by Mr. H. H. Clarke for the erection of a hall on site of 48, Endlesham-road, Balham.

BARNES.—Flats.—The Borough Surveyor is to have the bill of quantities prepared and to obtain tenders for two flats and two maisonettes on the site adjacent to the Tangier-road substation.

BARNES.—Building.—The Borough Surveyor to the T.C. has submitted a plan showing a suggested building combining a common ranger's cottage, refreshment lounge, ticket office and store, dressing-rooms, and public lavatories, estimated to cost £1,570, on the Palewell playing-fields.

BARNET.—Housing.—The U.D.C. has received the M.H. sanction to the borrowing of £8,190 to purchase 17.61 acres of land at Chesterfield-road, from Lord Chesterfield, for housing purposes.

BEXLEY.—Home.—Tenders are being invited for the erection of a proposed maternity home at Bursted Wood, Bexleyheath, comprising main ward block for 24 beds and nurses' quarters, isolation unit, mortuary, and contingent works, for the U.D.C. Mr. G. A. Joy, F.S.I., surveyor, has prepared the plans.

BRIMSDOWN.—Extensions.—Are to be made to the "A" Power Station of the North Metropolitan Electric Power Supply Co., Ltd., Northmet House, Cannon Hill, N.14. Plans have been prepared by the company's Chief Engineer's Department at Northmet House.

BRYANSTON-SQUARE.—Flats.—Mr. W. E. Masters, F.R.I.B.A., 28, Upper Gloucester-place, W.1, is the architect for 58 flats close to Bryanston-square, W.1. The flats are to be known as "Stourcliffe Close." The contractors are Messrs. John Mowlem & Co., Ltd., 91, Ebury Bridge-road, S.W.

CHARLES-STREET.—Rebuilding.—Of the "Running Footman" public-house is contemplated by Messrs. Watney, Combe, Reid and Co., Ltd., Stag Brewery, S.W.1. The brewery architect is Mr. A. W. Blomfield, F.R.I.B.A. No contracts have been let.

CLAPHAM.—Showrooms.—The Economy Garage, Ltd., 18, Union-road, S.W.4, have had plans prepared for a block of showrooms with flats above. The contract has been let to the Cripps Construction Co., Ltd., 116, Putney Bridge-road, S.W.15.

CLAPHAM NORTH.—Alterations.—Mr. W. G. Ingram, 4, Verulam-buildings, Gray's Inn, W.C.1, is the architect for alterations to the "Royal Oak" public-house, Clapham High-street. No contracts placed.

DEPTFORD.—Building.—The Rev. David T. Sykes, St. Catherine's Vicarage, Pepys-road, S.E.14, has submitted a proposed scheme for the erection of new headquarters for boy scouts in Drakefell-road.

ELTHAM.—Extensions.—Messrs. D. J. Moss and Partners, 228, Farmers-road, S.E.5, are the architects for extension to Bon Ton and Float Iron laundry, Eltham High-street.

ELTHAM.—Hall.—The Parochial Council of St. Barnabas' Church propose to build a church hall and vicarage in Rochester-way. The vicar is the Rev. J. G. P. Hardy.

FOREST HILL.—Flats.—A contract has been placed with Messrs. L. T. Buckley, Ltd., 14, Regent-street, S.W.1, for the erection of a block of flats and garages at "Greenbank," Queen's-road. Mr. Arnold A. Higuer, 1, Montague-place, W.C.1, is the architect.

FULHAM-ROAD.—Shops.—Messrs. Gale, Heath and Sneath, 15, New Bridge-street, E.C.4, are the architects for the erection of a four-story building comprising shops on the ground floor and flats above at 182-184, Fulham-road. The builder is Mr. Charles R. Price, of 252, Bishopsgate, E.C.2.

GOWER-STREET.—Building.—The University College authorities have adopted a new building scheme as follows: General preparation of the remainder of Foster-court by the introduction of the necessary staircases, the raising of the roof, and the provision of the main services for heat and light; a library centre for the Foster-court departments; and the removal of the Department of Geography and the Faculty of Laws to Foster-court. The architect (Professor A. E. Richardson, A.R.A. (of Messrs. Richardson & Gill, 41, Russell-square, W.C.), the electrical engineer (Dr. H. E. M. Barlow), and the heating engineer (Mr. Stinton Jones) have been authorised to proceed with the preliminary preparations.

HACKNEY.—Factory.—Stores, etc., to be erected in Tudor-road, E.8, for Messrs. H. Spicer and Co., 8, Milborne-street, E.9. The contract has been placed with Messrs. F. and H. F. Higgs, Ltd., Station-works, Hinton-road, Herne Hill, S.E. The plans have been prepared by Mr. A. Rubens Cole, L.R.I.B.A., 24, Dean-street, W.1.

HENDON.—Building.—Mr. Neil K. Humphris, 7, Great James-street, W.C.1, is the architect for new laundry premises in Bell Vue-road and Bell Vue-terrace, N.W. No contracts let.

HENDON.—Additions.—Are to be made to Gilda-court, Watford-way, N.W., including new caretakers' quarters, 20 garages, etc. The architect is Mr. A. Burr, F.R.I.B.A., 85, Gower-street, W.C.1.

HIGHGATE.—School.—The governors of the William Ellis Endowed School have accepted the tender of Messrs. C. Miskin and Sons, Ltd., Romelands, St. Albans, for their new buildings at Highgate-road, N.W., replacing the present premises in Allcroft-road, N.W.5. Accommodation will be provided for nearly 500 boys, the cost being estimated at £59,178. The architect is Mr. H. P. G. Maule, F.R.I.B.A., 12, Stratford-place, Oxford-street, W.1.

HOUNSLOW.—Houses.—Plans have been prepared by Messrs. Harris (Contractors), Ltd., 302, Bath-road, Hounslow, for 110 houses, roads, etc., on the Summerhouse estate. The work will be carried out by the company.

ISLINGTON.—Modernisation.—The L.C.C. has recommended £13,995 in respect of the modernisation of eight wards, including the provision of improved sanitary accommodation and furniture and equipment, at Holborn and Finsbury Institution, Shepherdess-walk, N.1.

ISLINGTON.—Dwellings.—The L.C.C. recommend approval of a proposal by the Islington and Finsbury Housing Association, Ltd., to erect 20 dwellings in Church-lane.

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ISLINGTON.—Shops.—Mr. E. C. P. Monson, F.R.I.B.A., Finsbury Pavement House, 120, Moorgate, E.C.2, is the architect for new shops and flats, 40/42, Upper-street, for Mr. S. C. Lawrence. The contract has been placed with Messrs. Ferris Brothers, 104, Churchfield-road, Acton, W.3.

KENSAL-ROAD.—Extensions.—The Walpamur Co., Ltd., 35, Rathbone-place, W.1, have under consideration extensions to their factories. Plans have been prepared by Mr. Donald Hamilton, 356, Oxford-street, W.1. No contracts placed.

KENSINGTON HIGH-STREET.—Flats.—Sixty-four flats to be erected at the back of Kensington High-street, and to be known as "Cottesmore Court." The architect is Mr. Gerald Unsworth, of Messrs. Unsworth, Goulder and Bostock, 28, Essex-street, W.C.2. Messrs. J. Mowlem & Co., Ltd., 91, Ebury Bridge-road, S.W., are the contractors.

KINGSTON-ON-THAMES.—Extensions.—Messrs. Carter and Young, 51, Eden-street, Kingston-on-Thames, are the architects for extensions to the Esher Laundry, in Hawks-road.

KINGSTON-ON-THAMES.—Public-house.—Messrs. Hodgson's Kingston Brewery, Eden-street, Kingston-on-Thames, are to build a new public-house on the site of Radnor's Restaurant, Fife-road. Plans have been prepared by Mr. Joseph Hill, F.R.I.B.A., 34, Gordon-square, W.C.1. No contracts placed.

LAMBETH.—Shops.—Messrs. John Chubb and Co., 4, New Park-road, Brixton, S.W.2, have secured the contract for the erection of shops and flats in New Park-road and Lyham-road. The architect is Mr. R. T. Grove, Lincluden, Beaumont-road, Wimbledon, S.W.19.

LAMBETH.—Church.—Messrs. Bleach and Skipper, 117, Pickhurst-lane, West Wickham, are the builders for a new church now being erected in St Michael's-road, S.W.

LAMBETH.—Dwellings.—The L.C.C. recommend, subject to the consent of the M.H., the Loughborough-park site to be sold to The Guinness Trust, 5, Victoria-street, S.W.1, for the erection of working-class dwellings.

LEWISHAM.—Flats.—The B.C. has received an application from Mr. E. W. Ashton, 17, Arragon-gardens, S.W.16, for the erection of flats and garages upon a site at 201, Hither Green-lane.

LONDON.—Building.—The L.C.C. has recommended the following schemes:—£4,700 for the enlargement of Old Church-road nursery school, Mile End; £48,670 for the rebuilding of Waterloo-road L.C.C. school, North Lambeth; and £45,450 for the rebuilding of the L.C.C. Smithfield Meat Trades Institute, Holborn.

LOWER RICHMOND-ROAD.—Premises.—Messrs. C. G. Vokes, Ltd., engineers, 95, Lower Richmond-road, S.W.15, are to have new premises erected at the rear of Nos. 95-101. The architect is Mr. W. E. Horsman, High View, Greenhill, Sutton, and the building contract has been secured by Messrs. C. and S. Construction Co., Worton-road, Isleworth.

LOWER SYDENHAM.—Factory.—The Commercial Structures, Ltd., of Staffa-road, Leyton, are erecting a factory in Worsley Bridge-road, Lower Sydenham.

MILL HILL.—Flats.—Mr. Peter H. Caspari, 102, Baker-street, W.1, is the architect for a block of 14 high-class flats in Green-avenue, N.W.7. No contracts let.

MILL HILL.—Flats.—Mr. B. Ewart Dixon, A.R.I.B.A., Addington House, Addington-drive, N.12, has prepared designs for 16 flats and 12 garages in Page-street, N.W.7. No contracts let.

NORTH KENSINGTON.—Flats.—The Kensington Housing Trust, Ltd., Portobello-road, W.11, have placed a contract with Messrs. R. Mansell, Ltd., 17, Grant-road, Croydon, for a further block of working-class flats on the Dalgarno-gardens estate. The plans have been prepared by Mr. H. Duncan Hendry, F.R.I.B.A., of Messrs. Hendry and Schooling, 6, Bedford-row, W.C.1.

PADDINGTON.—Dwellings.—The Ecclesiastical Commissioners, 1, Millbank, S.W.1, are to erect four blocks of dwellings five stories in height, comprising 233 dwellings, in Andover-place. Messrs. Caroe and Passmore, 3, Great College-street, S.W.1, are the architects. No contracts placed.

PARK-LANE.—Flats.—Messrs G. Val Myer and Watson-Hart, Abbey House, Victoria-street, S.W.1, are the architects for flats to be erected on the site of Fountain House, Park-lane, and abutting on Park-street, Aldford-street and Mount-street. The building contract has just been secured by Messrs. Sir Robert McAlpine and Sons, 50, Pall Mall, S.W.1.

PECKHAM. — Reconstruction. — The Southern Railway Co., Waterloo Station, S.E.1, have placed a contract with Messrs. F. G. Minter, Ltd., Ferry-works, High-street, Putney, S.W., for the reconstruction of their station buildings at Rye-lane, S.E. The company's architect is Mr. J. R. Scott, L.R.I.B.A.

PERIVALE.—School.—The Ealing T.C. are inviting tenders for the erection and completion of the Perivale senior girls' school. Mr. F. J. Forty, B.Sc., A.M.Inst.C.E., Borough Engineer, has prepared the plans.

PLUMSTEAD.—Store.—Mr. S. W. Ackroyd, F.R.I.B.A., Commonwealth-buildings, Albion-road, Woolwich, is the architect for the Royal Arsenal Co-operative Society for a new store and mess-room at 322, Wickham-lane.

REGENT'S PARK.—Flats.—A new block of flats, to be called "Viceroy Court," is to be erected in Albert-road, near the corner of Avenue-road. The architect is Mr. C. Beresford Marshall, of Messrs. Marshall and Tweedy, FF.R.I.B.A., 9, New Cavendish-street, W.1, and the contractors are Messrs. John Mowlem and Co., Ltd., 91, Ebury Bridge-road, S.W.1.

SHEEN. — Flats. — Messrs. Solomon, Staddon and Barnes, solicitors, 58, Finsbury-pavement, E.C.2, have asked the Barnes T.C. if they would have any objection, in principle, to the erection of flats on the site of the land abutting on Sheen Gate-gardens. The Council have approved, subject to the plans being submitted and in order. The architects are Messrs. Couch and Coupland, 37, Sheen-road.

SOUTH CROYDON.—Additions.—H.M.O.W. have placed a contract with Messrs. Cropley Bros., Ltd., Imperial Works, Church-road, Epsom, for alterations and additions to the South Croydon sorting office.

ST. MARYLEBONE.—Crematorium.—The B.C. have decided to appoint Mr. G. A. Webster, F.S.I., 5, Verulam-buildings, Gray's Inn, W.C., as quantity surveyor for the proposed crematorium at the cemetery. The cost is estimated at £32,000. The architect is Sir Edwin Cooper, A.R.A., 4, Verulam-buildings, W.C.1.

SURBITON.—Extensions. — Comprising a new hall with flats above are to be built at the British Legion Club, Hollyfield-road. No contracts placed. The cost is estimated at £6,000. The architect is Mr. Joseph Hill, F.R.I.B.A., 34, Gordon-square, W.C.1.

TEDDINGTON.—Extensions.—Are to be made to the trolley omnibus depot, Hampton-road, Fulwell, for the L.P.T.B., 55, Broadway, S.W.1. Plans have been prepared by the Board's staff.

TOOTING. — Tenements. — The Wandsworth B.C. has recommended the retaining of Mr. G. L. Elkington, F.R.I.B.A., 7, Laurence Pountney-hill, E.C.4, as architect for the 42 tenements of the Tooting-grove clearance area.

TOTTENHAM.—Extensions.—And alterations are to be made to the Tottenham Polytechnic, High-road, N., for the governors. The plans have been prepared by Mr. W. T. Curtis, F.R.I.B.A., 10, Great George-street, S.W.1. No contracts let.

UXBRIDGE.—Houses.—The Council has approved the lay-out plan and agreed that tenders be invited for six pairs of houses at Rockingham-road, Uxbridge, and five pairs on the Pole Hill estate. The architect to the Council also submitted a lay-out plan for the erection of 21 pairs of three-bedroom houses and four pairs of aged persons' dwellings on the site acquired by the Council at Benbow-way, Cowley. This was also approved.

WANDSWORTH. — Premises. — Negotiations have taken place between the L.C.C and Messrs. Young and Co.'s Brewery, Ltd., Ram Brewery, Battersea, for the rebuilding on another site of the "Prince of Wales" public-house, now at 99, Union-road. The architects are Messrs. Clemence, of Guildford.

WATFORD.—Addition.—The Committee of Management of the Watford and District Peace Memorial Hospital, Rickmansworth-road, has accepted the tender of Messrs. Charles Brightman and Son, Ltd., Ebury-road Works, Watford, for their proposed new nurses' home, ward unit, kitchen block, etc. The plans have been prepared by Mr. Wallace Marchment, F.R.I.B.A., 11, Stanley House, Albion-road, S.W.8.

WELLINGTON-STREET. — Premises. — New business premises are to be erected at the corner of Wellington-street and Tavistock-street, W.C.2, by Messrs. Holland & Hannen and Cubitts, Ltd., 1, Queen Anne's-gate, S.W.1. The architects are Messrs. Epps and Ponder, 329, High Holborn, W.C.1, and the demolition of the present buildings on the site is being carried out by Messrs. Goodman Price, Ltd.,

WEST WICKHAM.—Shops.—With flats above are to be erected on the Coney Hall Estate, Croydon-road, by Messrs. Morrell (Builders), Ltd., 52, Grosvenor-gardens, S.W.1. The architects are Messrs. Marshall and Tweedy, FF.R.I.B.A., 9, New Cavendish-street, W.1.

PLYWOOD AND THE TIMBER TRADE

Mr. P. Morton Shand, in a talk on laminated wood at the Timber Exchange, London, on March 11, said that far from being a competitor with sawn wood, laminated wood was simply an extension of the pre-existing uses for timber. In so far as laminated wood competed with anything, it was with things like composite wallboard, plaster and sheet metal. Every fresh extension of the uses of plywood—and it was as well to point out that the majority of those either opened up entirely fresh ground, or else won territory from some other material—inevitably postulated the employment of more solid timber in one way or another.

Two examples that at once came to mind were, firstly, the enormously wide range of new decorative veneers, used on laminated boards, many being of Empire growth, which the rotary-cutter had been instrumental in introducing for wall-panelling, flush-panel doors, counter-tops and sides, etc. It was safe to say that but for the wide, flat surfaces which laminated wood made possible, those exotic timbers would have remained largely unused for furniture and kindred purposes, because there would have been little or no market for them. Secondly, there was the much rougher and more temporary use represented by the building up of spectacular film-sets. In the new Wells film "Things to Come," the whole of the elaborate subterranean architecture, the machines, and the giant gun that shot a couple of intrepid explorers to the moon, were all made of plywood (aping metal, he must admit).

Already the scientific renaissance of wood through plywood, which was after all only a quarter of a century old, had made history. It had transformed furniture design beyond the good and evil of period styles and saved it from the inevitable exhaustion of individual craftsmanship in its inevitable eclipse by the machine. Lamination was only the first of many ways wood would find of fitting itself to be a material for machine mass production and of eliminating the extra weight and bulk that usually had to be retained in ordinary wood construction as margins of safety.

NATIONAL ASSOCIATION OF SHOPFITTERS

The annual dinner of the National Association of Shopfitters was held on Thursday, March 12, at the Trocadero Restaurant, W.1, under the chairmanship of Mr. E. Pollard. Among those present were Sir Jonah Walker Smith, Messrs. G. H. Parker, Eric Burt, E. J. Brown, R. L. Mason, G. A. Robertson, Adrian Haskins, W. J. Rudderham, secretary, and I. E. Jones.

After the loyal toast, the Chairman proposed the health of Mr. D. C. North, the newly-elected President. This was drunk heartily, after which Mr. D. C. North submitted the toast of "The Visitors." He said that the Association was one which devoted a large amount of its time to problems which were difficult of solution, but he was happy to say that there was a greater understanding to-day between master and man. The Association welcomed Mr. G. H. Parker, President, National Federation of Building Trades Employers, Mr. Eric Burt, and Sir Jonah Walker Smith, who, they all knew, had done splendid work in bridging the gap between the worker and the employer.

Mr. E. Pollard also toasted the visitors, and made reference to Mr. E. J. Brown, who had been instrumental in the founding of the Shopfitters' Association.

Mr. G. H. Parker, responding to the toast, said that the National Federation of Building Trades Employers set an example to the other crafts in the building industry. He felt that until those other crafts got together the building industry would not occupy the position which other industries did. He hoped for at least another four years' prosperity in the building trade.

Sir Jonah Walker Smith, who also responded, said the Association had a great knack of "dissolving" their differences instead of passing them on to the National Federation. He hoped they were in for a period of prosperity, and he would be so bold as to say that in a few years unemployment would be reduced by half. They were expecting a great demand for labour, and they were in touch with their operative friends in that respect.

Mr. G. Coulson congratulated the Association on electing Mr. D. C. North as their new President. The shopfitting craft had made great strides, he thought, and had done much to help London.

Mr. E. Pollard said that some of the examples of shopfronts in late years had been very vulgar, but he thought those days were passing, and he hoped those connected with the Association would do all they could to improve the craft and to help to make good permanent designs. As to Mr. North's election, he said they all knew of his work for the Association, and wished him every success.

Mr. D. C. North briefly replied.

The annual general meeting of the National Association of Shopfitters was held previous to the dinner, at 34, Russell-square, W.C.1. Mr. E. Pollard (president) occupied the chair. At the express wish of the president, who has occupied the chair for seven years, it was decided to elect a new president. Mr. D. C. North, of Messrs. Parnall and Sons, Ltd., was unanimously elected.

The following vice-presidents were re-elected: Messrs. J. Sheldon (Harris and Sheldon, Ltd.), S. C. Hawes (F. Sage and Co., Ltd.), C. W. Cooke, A. E. Edmonds (A. Edmonds and Co., Ltd.).

The following were elected members of the Council: Messrs. W. E. Arnold (Arnold and Sons, Ltd.), B. W. Blindell (B. W. Blindell and Son, Ltd.), K. Green (Holttum and Green, Ltd.), A. J. Gupwell (A. J. Gupwell, Ltd.), B. M. Hickman (Hickman (1928), Ltd.), T. H. Davis (Davis (Shopfitters), Ltd.), C. H. V. Hogg (Cheltenham Shopfitting Co.), A. McEwan (A. McEwan and Co.), L. Matthews (D. Matthews and Son, Ltd.), R. G. Richards (Harris and Sheldon, Ltd.), L. C. Webb (Arthur Webb).

Mr. Leonard Courtney (Courtney, Pope and Co., Ltd.), was re-elected hon. treasurer.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1935.

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Crafts-men.	Lab-ourers.
Aberdare	1/6	1/1½
Abergavenny	1/6	1/1½
Abingdon	1/5	1/0½
Accrington	1/6½	1/2
Aldeburgh	1/2½	11
Aldershot	1/3½	11½
Alfreton	1/6½	1/2
Alnwick	1/6	1/1½
Altrincham	1/6½	1/2
Amble	1/6	1/1½
Amersham	1/4½	1/0½
Ammanford	1/6½	1/2
Andover	1/3½	11½
Ardingley	1/4½	1/0½
Arundel	1/4	1/0
Ascot	1/4½	1/0½
Ashby-de-la-Zouch	1/5	1/0½
Ashford (Kent)	1/3½	11½
Ashford (Middlesex)	1/5½	1/1½
Ashington	1/6	1/1½
Ashstead	1/5	1/0½
Ashton-under-Lyme	1/6½	1/2
Aylesbury	1/4	1/0
Aylsham	1/3½	11½
Bagshot	1/3½	11½
Banbury	1/4	1/0
Barnsley	1/6½	1/2
Barnstaple	1/4½	1/0½
Barrow-in-Furness	1/6½	1/2
Barry	1/6½	1/2
Basingstoke	1/4	1/0
Bath	1/5½	1/1½
Batley	1/6½	1/2
Beaconsfield	1/4½	1/0½
Beccles	1/3	11½
Bedford	1/5½	1/1½
Berkhamsted	1/4	1/-
Berwick	1/5½	1/1½
Beverley	1/6½	1/2
Bexhill-on-Sea	1/4½	1/0½
Bideford	1/4½	1/0½
Biggleswade	1/4	1/-
Billericay	1/4	1/-
Birchington	1/4	1/-
Birkenhead	1/8‡	1/3½
Birmingham	1/6½	1/2
Bishop Auckland	1/6	1/1½
Bishops Stortford	1/5	1/0½
Blackburn	1/6½	1/2
Blackpool	1/6½	1/2
Blyth	1/6½	1/2
Bognor Regis	1/4	1/-
Bolton	1/6½	1/2
Bournemouth	1/5½	1/1½
Bracknell	1/4	1/-
Bradford	1/6½	1/2
Bradford-on-Avon	1/3½*	11½
Braintree	1/4½	1/0½
Brentwood	1/6	1/1½
Bridgwater	1/4½	1/0½
Bridlington	1/6	1/1½
Brighouse	1/6½	1/2
Brighton	1/5½	1/1½
Bristol	1/6½	1/2
Broadstairs	1/4	1/-
Bromsgrove	1/5½	1/1½
Buckley	1/6½	1/2
Bungay	1/2½	11
Burnham-on-Crouch	1/3	11½
Burnley	1/6½	1/2
Burslem	1/6½	1/2
Burton-on-Trent	1/6½	1/2
Bury	1/6½	1/2
Bury St. Edmunds	1/4	1/-
Buxton	1/6	1/1½
Byfleet	1/4½	1/0½
Cambridge	1/6	1/1½
Canterbury	1/4	1/-
Cardiff	1/6½	1/2
Carlisle	1/6½	1/2
Carnforth	1/6½	1/2
Castleford	1/6½	1/2
Caterham	1/5	1/0½
Chard	1/3½*	11½
Chatham	1/5	1/0½
Chelmsford	1/5	1/0½
Cheltenham	1/5	1/0½
Chepstow	1/5½	1/1½
Chertsey	1/5	1/0½
Chester	1/6½	1/2
Chesterfield	1/6½	1/2
Chichester	1/4	1/-
Chorley	1/6½	1/2
Cirencester	1/4*	1/-
Clacton	1/4½	1/0½
Cleveleys	1/6½	1/2
Clitheroe	1/6½	1/2
Cobham	1/5	1/0½
Colchester	1/5½	1/1½
Colwyn Bay	1/5½	1/1½
Congleton	1/6	1/1½
Coventry	1/6½	1/2
Cranbrook	1/3	11½
Cranleigh	1/3½	11½
Crawley	1/4½	1/0½
Crewe	1/5½	1/1½
Cromer	1/3½	11½
Crowborough	1/4½	1/0½
Cuckfield	1/4½	1/0½
Darlington	1/6½	1/2
Darwen	1/6½	1/2
Daventry	1/5	1/0½
Deal	1/4	1/-
Denbigh	1/5	1/0½
Derby	1/6½	1/2
Devizes	1/3*	11½
Dewsbury	1/6½	1/2
Didcot	1/4½	1/0½
Diss	1/3	11½
Doncaster	1/6½	1/2
Dorchester	1/4*	1/-
Dorking	1/4½	1/0½
Dover	1/4	1/-
Dovercourt	1/4½	1/0½
Driffield	1/5	1/0½
Droitwich	1/5½	1/1½
Dudley	1/6½	1/2
Dunstable	1/4½	1/0½
Durham City	1/6½	1/2
Eastbourne	1/5½	1/1½
E.Glam.(Mon.Val.)	1/6	1/1½
East Grinstead	1/4½	1/0½
Edenbridge	1/4½	1/0½
Ely	1/3	11½
Epping	1/6½	1/2
Exeter	1/5½†	1/1½
Exmouth	1/4½	1/0½
Fakenham	1/3	11½
Falmouth	1/5	1/0½
Fareham	1/4	1/-
Faversham	1/3½	11½
Felixstowe	1/5	1/0½
Filey	1/5	1/0½
Fleetwood	1/6½	1/2
Flint	1/6	1/1½
Folkestone	1/4	1/-
Frinton-on-Sea	1/4½	1/0½
Frome	1/3½*	11½
Gainsborough	1/5½	1/1½
Gateshead	1/6½	1/2
Gillingham	1/5	1/0½
Glossop	1/6½	1/2
Gloucester	1/5½†	1/1½
Godalming	1/4½	1/0½
Goole	1/6½	1/2
Gosport	1/5½	1/1½
Grantham	1/5	1/0½
Gravesend	1/6	1/1½
Gt. Yarmouth	1/4½	1/0½
Grimsby	1/6½	1/2
Guildford	1/4½	1/0½
Guilsborough	1/5	1/0½
Halifax	1/6½	1/2
Hanley	1/6½	1/2
Harpenden	1/5	1/0½
Harrogate	1/6½	1/2
Hartlepools	1/6½	1/2
Harwich	1/4½	1/0½
Haslemere	1/3½	11½
Hastings	1/4	1/0
Hatfield	1/5½	1/1½
Haywards Heath	1/4½	1/0½
Hednesford	1/6	1/1½
Hemel Hempstead	1/5½	1/1½
Henley	1/4½*	1/0½
Hereford	1/4½*	1/0½
Herne Bay	1/4	1/0
Hertford	1/5½	1/1½
Heysham	1/6½	1/2
Hitchin	1/5	1/0½
Hoddesdon	1/5½	1/1½
Holt	1/2½	11
Horley	1/4	1/-
Horsham	1/4	1/-
Horwich	1/6½	1/2
Huddersfield	1/6½	1/2
Hull	1/6½	1/2
Hunstanton	1/3	11½
Huntingdon	1/3½	11½
Ilfracombe	1/4½	1/0½
Ingatestone	1/4½	1/0½
Ipswich	1/5½	1/1½
Isle of Thanet	1/4	1/-
Isle of Wight	1/3½	11½
Keighley	1/6½	1/2
Kenilworth	1/6½	1/2
Kettering	1/6	1/1½
Kidderminster	1/5½	1/1½
King's Lynn	1/4	1/-
Kirkham	1/6½	1/2
Knowle	1/6	1/1½
Lancaster	1/6½	1/2
Leamington	1/6	1/1½
Leatherhead	1/5½	1/1½
Leeds	1/6½	1/2
Leicester	1/6½	1/2
Leighton Buzzard	1/3½	11½
Letchworth	1/5	1/0½
Lewes	1/3	11½
Lichfield	1/5½	1/1½
Lincoln	1/6½	1/2
Littlehampton	1/4	1/-
Liverpool	1/8‡	1/3½
Llandudno	1/5½	1/1½
Llanelly	1/6½	1/2
London:		
12 m. radius	1/8*	1/3
12-15 m. radius	1/7½*	1/2½
Long Eaton	1/6½	1/2
Longton	1/6½	1/2
Loughborough	1/6½	1/2
Louth	1/5	1/0½
Lowestoft	1/4½	1/0½
Luton	1/6	1/1½
Macclesfield	1/6	1/1½
Maidenhead	1/5	1/0½
Maidstone	1/5	1/0½
Malvern	1/5	1/0½
Manchester	1/6½	1/2
Manningtree	1/3	11½
Mansfield	1/6½	1/2
March	1/3½	11½
Margate	1/4	1/-
Market Harborough	1/5½	1/1½
Matlock	1/5	1/0½
Melton-Constable	1/2½	11
Melton Mowbray	1/5½	1/1½
Merthyr Tydfil	1/6	1/1½
Middlesbrough	1/6½	1/2
Middleton	1/6½	1/2
Middlewich	1/5½	1/1½
Milford Haven	1/4½	1/0½
Morecambe	1/6½	1/2
Morley	1/6½	1/2
Mundesley	1/3½	11½
Nantwich	1/5½	1/1½
Newark-on-Trent	1/5½	1/1½
Newbury	1/4	1/-
Newcastle-on-Tyne	1/6½	1/2
Newcastle-u-Lyme	1/6½	1/2
New Forest	1/3½	11½
Newmarket	1/4½	1/0½
Newport, Mon.	1/6½	1/2
Newport Pagnell	1/3½	11½
Northampton	1/6½	1/2
Norwich	1/6	1/1½
Nottingham	1/6½	1/2
Nuneaton	1/6½	1/2
Oakham	1/5	1/0½
Oldham	1/6½	1/2
Ormskirk	1/6½	1/2
Oxford	1/6	1/1½
Oxted	1/3½	11½
Paignton	1/6	1/1½
Peterborough	1/6½†	1/2
Plymouth	1/6	1/1½
Pontypridd	1/5½	1/1½
Portsmouth	1/6½	1/2
Port Talbot	1/6½	1/2
Preston	1/3	11½
Pulborough	1/4	1/-
Ramsgate	1/5½	1/1½
Reading	1/5½	1/1½
Redditch	1/4½	1/0½
Redhill	1/4½	1/0½
Reigate	1/5	1/0½
Retford	1/6	1/1½
Rickmansworth	1/5	1/0½
Ripon	1/6½	1/2
Rochdale	1/5	1/0½
Rochester	1/6½	1/2
Rugby	1/3	11½
Saffron Walden	1/6	1/1½
St. Albans	1/6½	1/2
St. Helens	1/3½	11½
St. Neots	1/3½*	11½
Salisbury City	1/3½*	11½
Salisbury Plain	1/6½	1/2
Sawbridgeworth	1/4½	1/0½
Saxmundham	1/2½	11
Scarborough	1/6	1/1½
Selby	1/6½	1/2
Sevenoaks	1/5	1/0½
Sheerness	1/4	1/-
Sheffield	1/6½	1/2
Shipley	1/6½	1/2
Shoeburyness	1/6	1/1½
Shoreham	1/5	1/0½
Shrewsbury	1/5½	1/1½
Sittingbourne	1/3½	11½
Skegness	1/5½	1/1½
Sleaford	1/5	1/0½
Slough	1/5½	1/1½
Southampton	1/5½	1/1½
Southend-on-Sea	1/6	1/1½
Southport	1/6½	1/2
South Shields	1/6½	1/2
Spalding	1/4	1/-
Stafford	1/6	1/1½
Staines	1/5½	1/1½
Stamford	1/5	1/0½
Stevenage	1/5	1/0½
Stockport	1/6½	1/2
Stockton-on-Tees	1/6½	1/2
Stoke-on-Trent	1/6½	1/2
Stourbridge	1/6	1/1½
Stourport	1/5½	1/1½
Stowmarket	1/3	11½
Stratford-on-Avon	1/5	1/0½
Stroud	1/5†	1/0½
Sunderland	1/6½	1/2
Sutton Coldfield	1/6½	1/2
Swaffham	1/2½	11
Swanage	1/4½*	1/0½
Swansea	1/6½	1/2
Swindon	1/5*	1/0½
Tamworth	1/6	1/1½
Taunton	1/4½	1/0½
Tenterden	1/3½	11½
Tewkesbury	1/5*	1/0½
Thetford	1/3	11½
Thorpe Bay	1/6	1/1½
Todmorden	1/6½	1/2
Tonbridge	1/5	1/0½
Torquay	1/6	1/1½
Totnes	1/4½†	1/0½
Trowbridge	1/3½*	11½
Truro	1/3½	11½
Tunbridge Wells	1/5	1/0½
Uppingham	1/5	1/0½
Uttoxeter	1/5	1/0½
Wakefield	1/6½	1/2
Walsall	1/6½	1/2
Walsden	1/6½	1/2
Walton-on-Naze	1/4½	1/0½
Ware	1/5½	1/1½
Warminster	1/3½*	11½
Warrington	1/6½	1/2
Warwick	1/6	1/1½
Wellingborough	1/6	1/1½
Wells (Norfolk)	1/2½	11
Welwyn	1/5½	1/1½
Welwyn Gar. City	1/6½	1/2
West Bromwich	1/6½	1/2
Westcliff-on-Sea	1/6	1/1½
Weston-super-Mare	1/5½	1/1½
Weybridge	1/5	1/0½
Weymouth	1/4*	1/-
Whitby	1/5½	1/1½
Whitstable	1/4	1/-
Widnes	1/6½	1/2
Wigan	1/6½	1/2
Wigton	1/5	1/0½
Willington	1/6	1/1½
Wilmslow	1/6½	1/2
Winchester	1/4½	1/0½
Windermere	1/5	1/0½
Windsor	1/5½	1/1½
Wisbech	1/3½	11½
Witham	1/4½	1/0½
Woking	1/4½	1/0½
Wokingham	1/4½	1/0½
Wolverhampton	1/6½	1/2
Woodbridge	1/3½	11½
Worcester	1/5½	1/1½
Workington	1/5	1/0½
Worksop	1/5½	1/1½
Worthing	1/4	1/-
Wrexham	1/6	1/1½
Wroxham	1/4	1/-
Wycombe	1/5	1/0½
Wymondham	1/3	11½
Yeovil	1/4½*	1/0½
York	1/6½	1/2

* Painters 1d. less than other Craftsmen. † Painters ½d. less than other Craftsmen. ‡ Plasterers 1/9.

For Building Trade Wages in Scotland see page 612.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender, unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

MARCH 23.

Barton-on-Humber.—Houses.—24, in Tofts-rd., for U.D.C. C. G. Else, S. Dep. £3 3s.

Brierley Hill.—Houses.—25, Saltwells Wood site, Quarry Bank, for U.D.C. F. Oakes, clerk, Council Offices, Moor-st. Dep. £2 2s.

Broadstairs.—Refreshment Pavilion.—And conveniences at Joss Bay and conveniences at Botany Bay; also stairway to foreshore, Eastern Esplanade, for Broadstairs and St. Peter's U.D.C. S. W. Richardson, E. and S., Pierremont Hall. Dep. £3 3s.

Bromley, Kent.—Reconstruction.—Of open-air swimming bath, for B.C. T.C Dep. £2.

Cardiff.—Houses.—46, at Ely-Degar Field housing contracts, for T.C. City E. Dep. £2 2s.

Chipping Norton.—Painting.—Of external wood and ironwork at various cottages, for R.D.C. S. P. Bendle, S., Sheep-st., Charlbury.

***Coventry.**—Alterations.—And extensions to Whoberley public elementary school, for T.C. Director of Education. Dep. £1 1s.

Dumfries.—Additions.—To academy, for C.C. John Robson, County Clerk, County-bldgs. Dep. £1 1s.

Dundee.—School.—At Lochee, for T.C. James A. F. Morrison, City Quantity S., 21, City-sq.

Ealing.—Erection.—Of Perivale senior girls' school, Perivale, for B.C. T.C. Dep. £3 3s.

Edinburgh.—Demolition.—Of buildings at 14-16, East Richmond-st., and 77-121, Pleasance, for T.C. City E., 329, High-st.

Enfield.—Remodelling.—And extension of Chase Farm schools, for Middlesex C.C. County Architect, 10, Great George-st., London, S.W.1.

Keighley.—Alterations.—At police station, for Police Authority of West Riding. West Riding Architect, County Hall, Wakefield.

Leicester.—Alterations.—To refreshment pavilion, Western Park, for T.C. City S. Dep. £1.

Linkinhorne.—Additions.—And alterations to house at Darley Ford, for Mrs. P. M. Deeble. E. C. Higman, L.R.I.B.A., Barras-st., Liskeard.

Liskeard.—Reconstruction.—Additions and alterations to two cottages at Merrymeet, for C. Arthur; two at Wringworthy Morval, for R. A. Mutton; and one at Trewint, Menheniot, for B. Easterbrook. E. C. Higman, L.R.I.B.A., Barras-st., Liskeard.

Middlesex.—Alterations.—And additions to Hanworth Council school, Hanworth, for Middlesex C.C. Secretary, 10, Gt. George-st., S.W.1. Dep. £2 2s.

Middlesex.—Erection.—Of clinic and library in Dawlish-dr., Ruislip, for Middlesex C.C. Secretary, 10, Gt. George-st., S.W.1. Dep. £2 2s.

Middlesex.—Installation.—Of heating and hot water at elementary school, Green-rd., Southgate, for C.C. Secretary to E.C., 10, Great George-st., S.W.1. Dep. £2 2s.

Mansfield.—Erection.—Of 63 houses on Racecourse housing estate, for T.C. B.E. and S. Dep. £2 2s.

Newark.—Houses.—20 in blocks of 4, 40 in pairs, and 8 bungalows off Boundary-rd., for T.C. John H. Clarke, B.S. Dep. £2 2s.

Newport, I.W.—Constructional Work.—And repair at Isolation Hospital, Fairlee, for Isle of Wight Joint Hospital Board. E. L. Smith, architect, High-st.

Northwich.—Painting.—Of 220 houses in various parishes, for R.D.C. J. Birtwistle, S., Whitehall, Hartford.

Paisley.—Garage.—And other works at police office yard and buildings, for T.C. Master of Works, 16, Gilmour-st., Paisley.

Pudsey.—Houses.—20, on Roker-ln. housing site, for T.C. B.S. Dep. £4.

St. Ives.—Houses.—5 at Virgin-st., for T.C. Dep. £2 2s.

Sodbury.—Wiring.—Of 50 houses at Chipping Sodbury and Frampton Cotterell, for R.D.C. H. C. James, Housing Supervisor, Council Offices, Chipping Sodbury.

Southport.—Extending.—Of Portland-st.-yd., including construction of workshops, garage, sheds, paving, etc., for District Water Board. Engineer and Manager, 14, Portland-st. Dep. £3 3s.

Southport.—Cottage.—And certain drainage work at Scarth Hill pumping station, Ormskirk, for District Water Board. E. and Manager, 14, Portland-st., Southport. Dep. £2 2s.

Stafford.—Alterations.—And additions to Council school at Tutbury, nr. Burton-on-Trent, for C.C. F. A. Hughes. Dep. £4 4s.

Yeovil.—Erection.—Of 128 houses and 12 flats at Lower Larkhill-la., for T.C. T.C. Dep. £1 1s.

MARCH 24.

Aylburton.—Houses.—4, at Stockwell-ln., for Lydney R.D.C. G. J. Elliott, S., Highland Villa, Tutnalls, Lydney. Dep. £2 2s.

Braddan (I.M.).—Houses.—8 or 10, at Strang, for P.C. A. J. Davidson, architect, Talbot-chambs., 16-18, Athol-st., Douglas (I.M.). Dep. £2 2s.

Chichester.—Erection.—Of 12 houses at Yapton, for R.D.C. S. Dep. £2 2s.

Crook (Co. Durham).—Houses.—94, at Foundry Fields, for North Eastern Housing Assoc., Ltd. E. W. Ayton, Architect and S., Council Office, Glenholme, Crook. Dep. £3 3s.

Derby.—Cottages.—2, at fire station, for T.C. C. H. Aslin, F.R.I.B.A., Borough Architect. Dep. £1 1s.

Derbyshire.—Demolition.—Of chimney stack at County Mental Hospital, Mickleover, for C.C. County Architect, County Offices, Derby. Dep. £2 2s.

Devon.—Schools.—At Braunton, Chulmleigh, Dawlish, and Exmouth, for C.C. H. V. de Courcy Hague, F.R.I.B.A., County Architect, 97, Heavitree-rd., Exeter. Dep. £2 2s. each school.

Edmonton.—Erection.—Of branch library and feeding centre at Huddersfield-rd., for U.D.C. E Dep. £2 2s.

Jordanstown and Possockstown.—Houses.—16, and 19 out-offices, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Kilcock.—Houses.—6, and 5 out-offices, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Kirkcaldy.—Houses.—276, on King-st. site, for T.C. G. R. Deas & T. Bertram, Central-chambs., High-st.

Knockmark and Drumree.—Houses.—9, and 9 out-offices, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Liverpool.—Conversion.—Into flats of 169-177, Upper Parliament-st., for T.C. Land Steward and Surveyor.

Malmesbury.—Houses.—6, at Lea, for R.D.C. Chas. G. Campbell, S., 10, High-st. Dep. £2 2s.

Market Bosworth.—Houses.—50, at various sites, for R.D.C. H. G. Davey, S., Market Bosworth, Nuneaton. Dep. £1 1s.

Reading.—Demolition.—Of car shed and other small buildings at transport depot, for C.B. B.S. Dep. £1 1s.

Rhondda.—Post Mortem Block.—At Oakland-ter., Ferndale, for U.D.C. E. Taylor, E. and S., Council Offices, Pentre, Rhondda. Dep. £1 1s.

South Cambridgeshire.—Houses.—4, at Linton, and 4, at Sawston, for R.D.C. H. Hales, clerk, County Hall, Hobson-st., Cambridge. Dep. £2 2s.

MARCH 25.

Ashford (Kent).—Erection.—Of 62 houses on Kingsnorth-rd. site, Ashford, 8 houses at Grosvenor-rd., Kennington, and stores shed and workshop at Hampden-rd., for U.D.C. A. F. Webster, S., 5, North-st. Dep. £2 2s.

Beeston, Notts.—Erection.—Of employment exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Belfast.—Erection.—Of Church of St. Anthony, Willowfield, Woodstock-rd., for Right Rev. Monsignor Dean Crolly, V.G., P.P., St. Matthews, Newtownards-rd., Belfast. MacCarthy & Lilburn, S., Scottish Provident-bldgs.

Blackrock.—School.—At Sion Hill Convent, Francis D. Shortall, Quantity S., 10, Leinster-st., Dublin. Dep. £5 5s.

Brighton.—Pavilion.—At technical college playing field, Patcham, for E.C. Gilbert M. Simpson, architect, 16, Ship-st. Dep. £2 2s.

Canvey Island.—Construction.—Of reinforced concrete bathing pool in Labworth-pk. and erection of dressing-boxes, offices and kiosks, for U.D.C. C. R. Butcher, E. and S. Dep. £2 2s.

Castleford.—Houses.—138, at Redhill housing estate, for U.D.C. Charles R. Smith, E. and S. Dep. £3 3s.

Derby.—Alterations.—To premises to form tuberculosis clinic at 93, Green-ln., for Health Committee. C. H. Aslin, F.R.I.B.A. Dep. £1 1s.

***Elham.**—Erection.—Of Council chambers and offices and detached house at Eastbrook, Lyminge. A. D. Johnson, architect, The New Hall, Lyminge, Folkestone. Dep. £2 2s.

Glasgow.—Erection.—Of King's Park school, Kingsbridge-dr., for T.C. Education Offices (Property Department), 129, Bath-st. Dep. £1 1s.

Glasgow.—Heating Installation.—In Hillington school, Hartlaw-cres., for T.C. Education Offices (Property Department), 129, Bath-st. Dep. £1 1s.

Kirkbymoorside.—Cottages.—6, at Wombleton, nr. Kirkbymoorside, for R.D.C. Richd. Jennings, clerk.

Liverpool.—Flats.—66, on Speke-rd.-gdns., portion No. 2 site, for T.C. Director of Housing, Blackburn-chams., Dale-st., Kingsway. Dep. £2 2s.

Moorfields.—School.—For Ballymena Regional E.C. J. Scott, architect, 11, Fountain-st., Belfast. Dep. £2 2s.

Newcastle-upon-Tyne.—Matron's House.—At St. Mary Magdalene Hospital, Claremont-rd., for T.C. City Architect, 18, Cloth-market.

field, for Brighton E.C. G. M. Simpson, architect, 16, Ship-st., Brighton. Dep. £2 2s.

Penzance.—Dining Hall.—At school for girls, for Cornwall C.C. S. Pool, County Architect, A.R.I.B.A., County Hall, Truro. Dep. £1.

Southport.—Painting.—And decorating various buildings, railings, etc., on Pier, for T.C. B.E. Dep. £1 1s.

MARCH 26.

Bedford.—Installation.—Of heating and hot water services at post office and garage, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Bristol.—Extension.—Of apparatus room at Telephone Exchange (Central), for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Downpatrick.—Construction.—Of lavatory accommodation, etc., at staff mess rooms, Down Mental Hospital. C.S., Courthouse.

Hazel Grove and Bramhall.—General Repair.—Painting, etc., of houses in London-rd., Hazel Grove, for U.D.C. F. E. Capper, Clerk of the Council, Council Offices, Hazel Grove. Dep. £2.

Leeds.—Repairs.—To roofs at Temple Newsam Mansion, for T.C. J. E. Acfield, City E.

Leeds.—Completion.—Of houses on Gipton housing estate, for T.C. R. A. H. Livett, Housing Director, 26, Great George-st. Dep. £10.

Leicester.—Erection.—Of senior boys' school on Tailby estate, for T.C. Director of Education. Dep. £2 2s.

Romney Marsh.—Demolition.—Of 6 cottages, Watson's-row, and 2, Chapel-row, Brookland, for R.D.C. G. E. Wells, White Lodge, Dymchurch, Kent.

Stockton-on-Tees.—Alterations.—And additions to grammar school, Norton-rd., for Governors. George P. Stainsby, architect, A.R.I.B.A., 25, High-st. Dep. £3 3s.

MARCH 27.

Bakewell.—Houses.—8, at Youlgreave, for R.D.C. G. V. Sayner, L.R.I.B.A., 4, Grove-parade, Buxton.

Basford.—Repairs.—To houses in various parts of district, for R.D.C. Sanitary Inspector, Health Department, Rock House.

***Bedford.**—Alterations.—To lavatories, new drainage and structural alterations, underpinning at six elementary schools, for T.C. B.E. and S. Dep. £4.

Clitheroe.—Convenience.—At market, for T.C. S., Church-st. Dep. £1 1s.

Edinburgh.—Workshops.—At Calton-rd., for T.C. E., 15, Calton Hill.

Farnborough.—Taking Down.—And removing 4 cottages, and purchase of materials, for U.D.C. Chief Sanitary Inspector.

Tonbridge.—Houses.—8, Three Elm-ln., Golden Green, Hadlow; 6, Whetsted-rd., Five Oak Green, Capel, and 6, Sychem-ln., Capel, for R.D.C. W. N. Miller, S., 48, Pembury-rd. Dep. £1 1s.

MARCH 28.

Bexley.—Erection.—Of maternity home, Bursted Wood, for U.D.C. S. Dep. £10.

Bingley.—Lavatories.—And conversion of offices at Wilsden Council school, for E.C. E. B. Nelson.

Bradford.—Library.—At Haworth-rd., for T.C. City Architect.

Bristol.—Houses.—136, at Horfield housing site, and 6, at Ham Green, Pill, for T.C. City E. Dep. £1.

Dartford.—Extensions.—And engineering services at County Hospital, West-hill, for Kent C.C. W. H. Robinson, F.R.I.B.A., Springfield, Maidstone. Dep. £5 5s.

Farnham.—Cottages.—4, at Upper Weybourne-ln., Weibourne, for U.D.C. R. M. Sargent, Sanitary and Building S., Council Offices, South-st. Dep. £1 1s.

Kingsbridge.—Houses.—32, at Rack Park, and construction of roads, sewers, footpaths and fences, for U.D.C. E. Gellender, S. Dep. £3 3s.

Neath (Glam.).—Lock-up Shops.—At Station-sq., for G.W. Rly. E., Paddington Station, London, W.2. Dep. £2 2s.

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Newton Abbot.—Construction.—Of reinforced concrete boating lake, etc., and paddling pool, erection of buffet and conveniences, etc., at Penn Inn, for U.D.C. C. D. White, S. Dep. £3 3s.

Settle.—Filter-house.—At Settle and Giggleswick Waterworks, Mitchell-lane, for R.D.C. F. R. Birkhead, S.

Taunton.—Alterations.—And extensions to library in order to convert same into open-access system, for T.C. Roberts & Willman, architects, 2, Hammet-st.

Westheughton.—Houses.—40, at Hindley's estate, for U.D.C. S. Dep. £3 3s.

Worthing.—Cottages.—4 blocks of four, type B, also 2 blocks of four, type C, at Findon, for R.D.C. S. Dep. £2 2s.

Wycombe.—Interior Decoration.—Of Council houses, for R.D.C. S. W. Birch, 17, High-st., High Wycombe.

MARCH 29.

North Cotswold.—Houses.—10, at Burton-on-the-Water, 6, at Oddington, and 4, at Westcote, for R.D.C. J. E. Busfield, S. Council Offices, Moreton-in-Marsh, Glos. Dep. £2 2s.

MARCH 30.

Abertillery.—Construction.—Of heavy retaining wall at Blaencumin-rd., Llanhilleth, for U.D.C. A. Gordon Jones, E. and S. Dep. £5.

Andover.—Alterations.—And extensions to conveniences at Guildhall, and erection of conveniences at cemetery, for T.C. B.S.

Bangor.—Extensions.—To Borough Isolation Hospital, for T.C. B. Price Davies, F.S.I., L.R.I.B.A. Dep. £3 3s.

***Bristol.**—Construction.—Of flues for No. 2 boiler house at Portishead generating station, for T.C. Chief E. Dep. £5 5s.

Chesterton.—Cottages.—12, in Comberton, Fen Drayton and Little Shelford, for R.D.C. J. R. Oxenham, architect, The County Hall, Hobson-st., Cambridge. Dep. £2 2s.

***Cranford (Middlesex).**—Erection.—Of junior school, for Borough of Heston and Isleworth. J. G. Carey, B.S., Hounslow. Dep. £2 2s.

Dunfermline.—Houses.—134 at Headwell, and 16 at Low Beveridgewell, for T.C. D. H. Shaw, B.E. Dep. £1 1s.

Exeter.—Erection.—Of John Stocker senior boys' school, for T.C. John Bennett, F.R.I.B.A., City Architect. Dep. £5.

Glamorgan.—Works.—At Clydach-on-Tawe Council school—conversion of boys' dept. into senior mixed dept.; Tonyrefail girls' school—erection of heating chamber; and erection of junior instruction centre at Port Talbot, for C.C. D. J. Parry, Deputy Clerk, Glamorgan County Hall Cardiff.

Harrogate.—Exterior Painting.—Of Tea House, Sun Parlours, and Colonnade, Valley Gardens, for T.C. C. E. Rivers, B.E.

***Hertfordshire.**—Erection.—Of casual wards at "Haymeads" Public Assistance Institution, Bishop's Stortford, for C.C. Elton Longmore, clerk. Dep. £3 3s.

Isleworth.—Erection.—Of new hall and infants' classroom at Worple-rd. schools, for Heston and Isleworth B.C. Secretary to Education Committee, Hounslow. Dep. £1 1s.

Little Lever.—Houses.—34, and 4 bungalows on Masefield-rd. estate, for U.D.C. T. Grant, S. Dep. £2 2s.

London.—Erection.—Of pavilion, Sunny Hill-pk., Hendon, and public lavatories, Stone Grove-pk., Edgware, for Hendon B.C. B.E. and S. Dep. £4 4s.

***London.**—Erection.—Of 30 flats and maisonettes on site of Holly House, Boston Manor-rd., Brentford, for Chiswick B.C. B.E. and S., Chiswick. Dep. £5 5s.

Norfolk.—Alterations.—In forming nurses' bedrooms at Poor Law Institution, Exton's-rd., King's Lynn, for C.C. C. J. Norton, F.R.I.B.A., County Architect, 23, Thorpe-rd., Norwich.

Okehampton.—Erection.—Of pavilion and contingent works, for T.C. R. Alan Brunskill, B.E. Dep. £1 1s.

Pontefract.—Erection.—Of 8 four-bedroomed, 52 three-bedroomed and 40 two-bedroomed non-parlour type houses at Monkhill, for T.C. Pennington, Hustler & Taylor, architects, Ropergate. Dep. £2.

Sale.—Library.—And extensions to town hall, for T.C. B.S. Dep. £5 5s.

***Scunthorpe.**—Erection.—Of 34 houses on Crosby housing estate, for U.D.C. E. and S. Dep. £2.

Seaford.—Erection.—Of 78 beach huts, shelter, conveniences, retaining walls, paving, and other incidental work, for U.D.C. E. A. Lister, S.

Stockton-on-Tees.—Erection.—Of 100 houses and flats, for T.C. George P. Stainsby, A.R.I.B.A. Dep. £2 2s.

Sunbury-on-Thames.—Internal Decoration.—Of 38 houses in Manor-ln. and Allen-rd., for U.D.C. A. J. Buttress, Acting S.

Truro.—Conveniences.—At Churchtown, St. Agnes, also conveniences and retaining wall at Fortscatho, for R.D.C. E. R. C. Harvey, Building S., Rural Council Hall, River-st. Dep. £2 each contract.

Yorkshire.—Works.—At Hemsworth, additions and alterations at West End school; Otley, additions and adaptations at North-parade school; Hensall removal of temporary wooden school from Thorne Medge Hall, and re-erection at Hensall school, Wombwell, erection of technical institute, for West Riding C.C. Education Officer, County Hall, Wakefield.

Yorkshire.—School.—And caretaker's house at Armthorpe, also works at Wath grammar school, for C.C. Education Officer, County Hall, Wakefield.

MARCH 31.

Ballyhegan.—Houses.—And office, for Irish Land Commission, M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

***Bridgwater.**—Erection.—Of telephone exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Chippenham.—Pumping Station.—In Ivy Fields, for T.C. B.E., 5, High-st. Dep. £2 2s.

Deerpark.—House.—And out-office, for Irish Land Commission, M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Hayes End (Middlesex).—External Redecoration.—On 500 houses on Wood End Park estate. E. R. Punnell, 43, Bedford-row, London, W.C.1. Dep. £2 2s.

***Marlborough.**—Erection.—Of 4 houses at East Grafton, Wilts, for R.D.C. S. Dep. £1 1s.

***Marlborough.**—Erection.—Of 18 houses at Ramsbury, for R.D.C. S. Dep. £1 1s.

***Northampton.**—Demolition.—Of police station, County High School, for C.C. Secretary for Education of police station, courts, etc., for C.C. Clerk.

***Northampton.**—Extensions.—To Wellingborough County High School, for C.C. Secretary for Education.

Nottingham.—Laundry.—At Aston Hall, Shardlow, Derby, for T.C. R. M. Finch, E. and S. Dep. £2.

Oakengates.—Houses.—50, at four sites, for U.D.C. S. Dep. £2 2s.

***Sidmouth.**—Erection.—Of 144 houses on Manstone housing site, for U.D.C. Clerk. Dep. £5.

***Southend-on-Sea.**—Erection.—Of 56 houses, for C.B. Robt. H. Dyer, B.E. Dep. £2.

Swinton.—Covering.—Portion of market ground, Pendlebury, with steel-framed building, for Swinton and Pendlebury T.C. H. Entwisle, B.E. and S.

APRIL 1.

Croydon.—Structural Alterations.—To engine-room, electricity works, for C.B. Chief Engineer and General Manager. Dep. £1 1s.

Llandrindod Wells.—Erection.—Of post office and telephone exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

APRIL 2.

Bishop Auckland.—Dining-rooms.—Separation wards, etc., at Tindale-cres. and Helmington-row hospitals, for Auckland, Shildon and Willington Joint Hospital Board. C. Heslop, Fleet-st.

Kendal.—Erection.—Of 114 houses at Glebe Fields, for T.C. B.S. Dep. £2.

APRIL 3.

Clitheroe.—Houses.—And bungalows on Edisford-rd. and Henthorn-rd. housing site, for T.C. B.E. and S. Dep. £2 2s.

***Croydon.**—Erection.—Of chapel and crematorium at Mitcham-rd. cemetery, for C.B. B.E. Dep. £2 2s.

***Hornsey.**—Internal Decorations.—To cottages, Muswell Hill, for T.C. B.E. and S. Dep. £2.

APRIL 4.

Bristol.—Flats.—At Upper Cheese-ln., St. Philips, for T.C. Messrs. Gleeds, quantity surveyors, 40, Corn-st. Dep. £2 2s.

Cardiganshire.—School Works.—For C.C. R. Jones, County Architect, Llandyssul.

Derwent.—Houses.—6, at Hemingbrough, for R.D.C. F. T. Penty, S., 32, Coney-st., York. Dep. £1 1s.

***Shaftesbury, Dorset.**—Erection.—Of 4 houses at East Stour, for R.D.C. W. J. M. Morrish, F.R.I.B.A., Gillingham, Dorset.

Solihull.—Garage.—At depot, Streetsbrook-rd., for U.D.C. R. Dunn, E. and S. Dep. £2.

APRIL 6.

***Bognor Regis.**—Erection.—Of police station and 3 pairs of cottages, for West Sussex C.C. C. G. Stillman, F.R.I.B.A., Chichester. Dep. £2 2s.

Bourne.—Houses.—44, and 10 bungalows, for U.D.C. J. S. Fisher, S. Dep. £2 2s.

Hollingbourn.—Repair.—And exterior painting of houses, for R.D.C. C. W. Page, Star House, Maidstone.

Leicester.—Cottage.—At Evington, for T.C. Housing Architect, 18, Highcross-st. Dep. £1 1s.

Limerick.—Factory.—And office buildings, for Irish Wire Products, Ltd. J. F. Crowley & Pitts, consulting engineers, Westminster House, Great George-st., London, S.W.1. Dep. £5 5s.

Liverpool.—Erection.—Of house for farm bailiff at County Mental Hospital, Winwick, Warrington. Richard Owens & Son, 3, Crosshall-st. Dep. £1 1s.

Newcastle-on-Tyne.—Construction.—And maintenance for 12 months of reinforced concrete workshops and depot for City Engineer's Dept., for T.C. City E. Dep. £3 3s.

***York.**—Preparation.—And laying of wood block floors at City Mental Hospital, Naburn, for T.C. City E. Dep. £1 1s.

APRIL 7.

***Braintree.**—Erection.—Of Council Senior school, for Essex C.C. J. Stuart, F.R.I.B.A., Chelmsford. Dep. £2 2s.

Egypt.—Construction.—Of Mohammad Aly barrages and other subsidiary works, for Egyptian Government. Coode, Wilson, Mitchell & Vaughan-Lee, consulting engineers, 9, Victoria-st., London, S.W.1.

***London.**—Erection.—Of North Hanwell senior boys', junior mixed and infants' schools, for Ealing Borough. B.E. Dep. £10 10s.

***Rugby.**—Erection.—Of 22 houses, for B.C. B.S. Dep. £2 2s.

APRIL 8.

Cheltenham.—Erection.—Of 89 brick-built outhouses in connection with houses in Whaddon-av., for T.C. G. Gould Marsland, Municipal Offices.

Dunstable.—Reroofing.—Of administration block at hospital, Kensworth-ln., for District Hospital Committee. H. Pickering, S., 73, West-parade.

APRIL 9.

Barrow-in-Furness.—Houses.—276, including street works, demolition works, etc., for T.C. B.E. Dep. £2 2s.

APRIL 10.

***Bognor Regis.**—Erection.—Of block of school buildings, also clinic and caretaker's house, for West Sussex C.C. C. G. Stillman, F.R.I.B.A., Chichester. Dep. £5 5s.

APRIL 12.

***Caterham.**—Construction.—(1) Chalet convenience at Westway, Caterham-on-the-Hill; (2) similar convenience at Whyteleafe recreation ground; (3) tennis pavilion at Whyteleafe recreation ground, for U.D.C. S. Dep. £3 3s. each contract.

APRIL 14.

***Yiewsley.**—Erection.—Of 6 dwellings for aged persons at The Moor, Harmondsworth, for U.D.C. S. and E. Dep. £2 2s.

APRIL 16.

Durham.—Outside Painting.—Of various police stations and houses, for C.C. William J. Merrett, C.E. and S. and Architect, 43, Old Elvet, Durham.

Micklover.—Workshop.—Stores and laundry at County Mental Hospital for Derbyshire C.C. County Architect, County Offices, Derby. Dep. £2 2s.

APRIL 17.

Hitchin.—Houses.—14, at West Mill-rd. South and South-pl., for U.D.C. Wm. L. Whittle, S. Dep. £3 3s.

APRIL 18.

Bedfordshire.—Renovation.—Of Ampthill institution, for C.C. C.S., County Architectural Dept., Shire Hall, Bedford. Dep. £1 1s.

JULY 1.

London.—Erection.—Of offices and/or flats over 297-301, Balham High-rd. for use as rating and registrars' offices, for Wandsworth B.C. T.C.

NO DATE.

Linton.—Erection.—Of Village College, for Cambridge E.C. County Architect. Dep. £2 2s.

MATERIALS, etc.

MARCH 23.

Abertillery.—Tarred Macadam.—For U.D.C. A. Gordon Jones, S.

Blaenavon.—Building Materials.—For U.D.C. S.

Mansfield Woodhouse.—Dry Slag.—For U.D.C. Lawrence Walker, S.

Ogmore and Garw.—Highway Materials.—For U.D.C. A. H. Jenkins, S.

Tenterden.—Kent Ragstone Tarmacadam.—For R.D.C. W. C. Turner, Town Hall.

Worthing.—Concrete Tubes.—And concrete manholes, for T.C. B.E. and S.

MARCH 24.

Bexley.—Granite Concrete Kerb.—For U.D.C. G. A. Joy, S.

MARCH 25.

Alnwick.—Whinstone Chippings.—For U.D.C. G. Beaty, T.S., Council Offices, Green Batt.

MARCH 27.

Walthamstow.—Asphaltic Bitumen.—For B.C. A. Whitehead, Buyer, Town Hall, Walthamstow, E.17.

MARCH 30.

Ormskirk.—Tarmacadam.—For U.D.C. E. L. Leeming, S.

MARCH 31.

Inverness.—Road Metal.—For T.C. B.S., Town House.

ENGINEERING, IRON AND STEEL.

MARCH 25.

Bedfordshire.—Reconstruction.—Of small brick culvert in village of Shillington, on Pegsdon-Shillington-rd., for C.C. C.S., Shire Hall, Bedford.

Cheshire.—Constructing.—And widening of Timperley Station bridge, for C.C. G. E. Ashforth, C.S. and Bridgemaster, Watergate House, Watergate-st., Chester. Dep. £5 5s.

Swindon.—Construction.—Of two bridges over Highworth Branch, near Stratton Station, for G.W. Rly. E., Paddington Station, W.2. Dep. £2 2s.

MARCH 26.

Liverpool.—Completion.—Of control building superstructure at Liverpool Airport, Speke, for T.C. Land Steward and S. Dep. £5 5s.

Oldham.—Provision.—And installation of an electric lift and steel structural work at Central Library, Union-st., for C.B. B.E. and S. Dep. £1 1s.

Portsmouth.—Installation.—Of steam boilers, heating and hot water supply at Infectious Diseases Hospital. City E. Dep. £5 5s.

MARCH 28.

Aylesbury.—Sewerage.—And sewage disposal works at Haddenham, for R.D.C. Elliott & Brown, engineers, Burton-bldgs., Parliament-st., Nottingham. Dep. £3 3s.

Dagenham.—Steelwork.—For civic centre (contract No. 2), for U.D.C. F. C. Lloyd, E. and S. Dep. £3 3s.

APRIL 6.

★**Southend-on-Sea.**—Supply.—And erection of electricity refrigeration installation at public mortuary, for C.B. B.E. Dep. £1.

ROAD, SEWERAGE AND WATER WORKS.

MARCH 23.

Barnes.—Construction.—Of sewers for surface-water drainage, for T.C. F. P. Kindell, B.E. and S., High-st., Mortlake, S.W.14. Dep. £10.

Beddington and Wallington.—Street Improvement.—At The Drive (Part 2), Evelyn-way, Ingleby-way (part), and Lytton-gdns., Beddington, for U.D.C. S. F. R. Carter, E. and S., Town Hall, Wallington. Dep. £1 1s.

Brierley Hill.—Construction.—Of roads, etc., Saltwells Woode site, Quarry Bank, for U.D.C. F. Oakes, Clerk. Dep. £1.

Chelmsford.—Making-up.—Of The Drive, and Sunrise-ave., for T.C. V. J. Willis, S., Municipal Offices. Dep. £2 2s.

Huyton-with-Roby.—Making-up.—The Rooley, for U.D.C. A. W. Thomas, S. Dep. £1 1s.

Ilford.—Making-up.—And paving of four roads, for T.C. B.E. and S. Dep. £2 2s. (each road).

Littlehampton.—Construction.—And laying of approx. 1,400 yds. of sewer, for U.D.C. L. B. Beresford, clerk. Dep. £2 2s.

Southborough.—Construction.—Of about 290 yds. of 9 in. stoneware pipe sewer and manholes, for U.D.C. S.

Wanstead and Woodford.—Laying-out.—Of Salway-gdns., Woodford Green, for U.D.C. Armand D. Ward, E. and S. Dep. £2 2s.

MARCH 24.

Chippenham.—Laying.—Of 1,010 lin. yds. 4 in. dia. cast-iron water main, etc., on building estates, for T.C. B.E., High-st. Dep. £1 1s.

Garforth.—Making-up.—Of New Hold, East Garforth, for U.D.C. R. A. Easdale & Son, architects and surveyors, County Chambers, Castleford. Dep. £2 2s.

Grays.—Making-up.—Of Salisbury-rd., for U.D.C. H. S. Goodall, S., 57, High-st. Dep. £2 2s.

Rawmarsh.—Laying.—Of 161 yds. of 12 in. and 664 yds. of 9 in. sewer through agricultural land adjoining Claypit-lane, for U.D.C. J. R. S. Creighton, S., Council Offices, Parkgate. Dep. £1.

Staines.—Making-up.—Of various roads, for U.D.C. D. C. Fidler, S., Bridge-st. Dep. £2 2s.

Worcester.—Laying.—Of 9 in. stoneware soil and surface-water sewers, with manholes, flushing tanks, etc., in the Cornmeadow-ln. district, for T.C. City E.

MARCH 25.

Aylesbury.—Sewerage.—And sewage disposal works at Haddenham, for R.D.C. Elliott & Brown, engineers, Burton-bldgs., Parliament-st., Nottingham. Dep. £3 3s.

Battle.—Extension.—Of water mains to Crowhurst, for R.D.C. G. A. Bramley, Water E., Watch Oak, Battle. Dep. £3.

Crowhurst.—Laying.—And jointing of approx. 6,000 yds. of 6 in. and 4 in. cast-iron pipes, together with valves, hydrants and other fittings, for Battle R.D.C. G. A. Bramley, E., Council Offices, Watch Oak, Battle, Sussex. Dep. £3.

Hornsburch.—Reconstruction.—Of approx. 1,400 ft. of surface-water sewer in Avenue-rd., Harold Wood, for U.D.C. F. Alderson, S.

Newburgh.—Outfall Sewer.—From Coach-rd. to Croy Point, for T.C. Bruce & Proudfoot, Civil E.s, 63, Nicol-st., Kirkcaldy. Dep. £2 2s.

Pulborough.—Construction.—Of 530 lin. yds. of new roads and 90 yds. of paths on Hatches Estate, West Chiltington, for West Sussex C.C. Director of Agriculture, Southgate House, Chichester.

Stockton-on-Tees.—Improvements.—In 7 streets, for T.C. B.E. Dep. £1 1s.

MARCH 26.

Pinner.—Laying.—1,833 yds. of 12 in. and 200 yds. of 9 in. socketed pipe sewer, with junctions, manholes, etc., from Monkerton to Heath Barton, and laying 300 yds. of 9 in. socketed pipe sewer, with junctions, manholes, etc., at Park-la., for St. Thomas R.D.C. W. T. Hawker, S., 25, East Southernhay.

Taunton.—Construction.—Of a 6 in. sewer at rear of houses in Ilminster-rd., for T.C. I. F. Shellard, B.E. and S., St. Paul's House.

MARCH 27.

Merton and Morden.—Works.—In Erridge-rd., for U.D.C. R. W. North, E. and S., Council Offices, Kingston-rd., Marton, S.W.19. Dep. £1.

MARCH 28.

Baxhill.—Making-up.—Of various roads, for T.C. S. Dep. £1 1s.

MARCH 30.

Bradford.—Street Works.—And sewers on north-east portion of estate fronting Park-av., Canterbury-av. and Little Horton-ln., and erection of 296 houses, for T.C. City Architect. Dep. £10.

Eastbourne.—Reconstruction.—Of The Avenue, for T.C. B.E. Dep. £2 2s.

Ellesmere Port.—Widening.—And improvement of section of Stanney-lane, for U.D.C. P. J. Hodges, Clerk. Dep. £2 2s.

Eton.—Surface Dressing.—Of roads, for U.D.C. E. F. Pressey, S., High-st.

Fleet.—Surface-water Drainage.—And making up and gravelling carriageway and footways of Dunmow-hill, for U.D.C. E. Nash, Clerk.

Hendon.—Making-up.—6 streets, for T.C. A. O. Knight, B.E. and S. Dep. £4.

Holywell.—Construction.—Of about 800 yds. of sewer, for U.D.C. Williams & Clarke, engineers, 6, Godstall-chambs., Chester. Dep. £2 2s.

London.—Levelling.—Of land at rear of Nos. 11 and 13, Water-ln., Stratford, to receive tarpaving to form a playground, for West Ham C.B. John H. Jacques, F.R.I.B.A., 61, West Ham-ln., E.15. Dep. £1.

London.—Tarpaving.—Of land at rear of Nos. 11 and 13, Water-ln., Stratford, for West Ham C.C. John H. Jacques, F.R.I.B.A., 61, West Ham-ln., E.15. Dep. £1.

MARCH 31.

Chippenham.—Laying.—Of 3,280 yds. of 10 in. dia. coated cast-iron pipes and appurtenant works in connection with new rising main from Ivy Fields to Hardenhuish Reservoir, for T.C. A. E. Adams, B.E., High-st. Dep. £2 2s.

★**Sidmouth.**—Construction.—Of roads and sewers, etc., for Manstone Housing Scheme, for U.D.C. Clerk. Dep. £5.

Swinton.—Paving.—And flagging with concrete flags, playgrounds at certain schools, for Swinton and Pendlebury T.C. B.E. and S.

Public Appointments.

MARCH 23.

Dewsbury.—Architectural Assistant (Temp.).—For C.B. T.C.

Dewsbury.—Town Planning Assistant (Temp.).—C.B. T.C.

East Retford.—Architect (Temp.).—For E.C. T.C.

Essex.—Junior Assistant Quantity Surveyor.—For C.C. J. Stuart, F.R.I.B.A., Chelmsford.

Essex.—Clerk of Works.—For C.C. J. Stonart, F.R.I.B.A., Chelmsford.

London.—Engineering Assistant.—For Southgate B.C. T.C.

MARCH 25.

Liverpool.—Surveying Assistant (Temp.).—For T.C. T.C.

★**London.**—Inspector of Building Materials (Temp.).—For Air Ministry. Secretary, W.B.9, Adastral House, W.C.2.

★**London.**—Three Assistant Civil Engineers at Harwell, Cambridge and Lincoln (Temp.).—For Air Ministry. Secretary (W.B.9), Room 161, Adastral House, W.C.2.

Warwick.—Quantity Surveying Assistant.—For C.C. A. C. Bunch, County Architect.

Warwick.—Two Senior Architectural Assistants.—For C.C. A. C. Bunch, County Architect.

Warwick.—Clerk of Works.—For C.C. A. C. Bunch, County Architect.

MARCH 26.

★**London.**—Architectural Assistant (Temp.).—For Walthamstow B.C. T.C.

MARCH 27.

★**Dublin.**—Senior Quantity Surveyor.—Secretary of the Commission. 45, Upper O'Connell-st.

London.—Civilian Quantity Surveyors (Temp.).—Under-Secretary of State (C.5), The War Office, S.W.1.

London.—Clerk of Works (Temp.).—For Finchley B.C. B.E. and S.

MARCH 30.

Surrey.—Two Surveyor's Assistants.—For C.C. Clerk, Kingston-upon-Thames.

★**Walsall.**—Architectural Assistant (Temp.).—For C.B. B.E. and S.

MARCH 31.

Walthamstow.—Chief Clerk.—For B.C. Housing Manager, Estate Office.

APRIL 2.

London.—Assistant Surveyors.—For Admiralty Secretary, Civil Service Commission, Burlington Gardens, W.1.

APRIL 3.

★**Newport.**—Architectural Assistant (Temp.).—For C.B. Chas. F. Ward, F.R.I.B.A..

APRIL 4.

★**Hertfordshire.**—Junior Architectural Assistant.—For C.C. County S., Hatfield.

APRIL 6.

★**Durham.**—Junior Architectural Assistant.—For C.C. F. Willey, F.R.I.B.A.

APRIL 6.

London.—Visiting Teachers at Hammersmith School of Building and Arts and Crafts, Limegrove.—For L.C.C. Education Officer (T.I.), County Hall, S.E.1.

★**Portsmouth.**—General Architectural Assistant.—For T.C. City Architect.

★**Portsmouth.**—Junior Architectural Assistant.—For T.C. City Architect.

APRIL 18.

★**Dorset.**—Junior Architectural Assistant (Temp.).—For C.C. Clerk, Dorchester.

★**Dorset.**—Two Architectural Assistants (Temp.).—For C.C. Clerk, Dorchester.

NO DATE.

★**Chester.**—Junior Draughtsman.—For War Dept. Chief Engineer, Western Command Headquarters, 102, Watergate-st.

★**London.**—Quantity and Measuring Assistants.—For L.C.C. Architect, County Hall, Westminster Bridge, S.E.1.

★**London.**—Heating Assistants (Temp.).—For Air Ministry. Secretary (W.B.9), Adastral House, W.C.2.

★**London.**—Architectural and Engineering Assistants (Temp.).—For Air Ministry. Secretary (W.B.9, Room 161), Adastral House, W.C.2.

★**London.**—Workers-up.—For Air Ministry. W.B.4.a, 5th Floor, Victory House, Kingsway, W.C.2.

★**Newcastle-upon-Tyne.**—Clerk of Works.—For T.C. R. G. Roberts, F.R.I.B.A.

"STUDIOS ONE AND TWO," OXFORD-STREET, W.

The main contractors were Messrs. Pitchers, Ltd., and the following firms were also associated with the work:—Clark and Fenn, fibrous plaster and decoration; Matthew T. Shaw, steelwork; C. A. and A. W. Howard, iron staircases and ladders; Brooks Phillips and Co., sanitary fittings; Walter Cassey, Ltd., ironmongery; Tudor Art Metal Co., wrot ironwork; C. R. Harrison and Sons, Ltd., Newton-le-Willows, Lancs, seating; Lazarus and Sons, carpets; Pathe Equipment Co., Ltd., draperies; Electrical Installations, electrical work; Major Equipment Co., Ltd., neon signs and stage lighting; F. H. Pride, lighting fittings; the Hall Manufacturing and Supply Co., Ltd., projection room shutters; Sturtevant Engineering Co., Ltd., vacuum cleaning; Heywood and Bryett, heating and ventilating; Williams and Williams, metal windows; Western Electric Co., Ltd., sound equipment; Camden Tile and Mosaic Co., floor and wall tiling; F. Braby and Co., Ltd., ventilating cowls; Redferns Rubber Works, Ltd., rubber mats; Ragusa Asphalte Paving Co., asbestos roofing; Art Marbles and Mosaic, marble wall lining and flooring; Automaticket, automaticket machines; George Parnall and Co., pay-box; Moler Products, Ltd., partition blocks; A. A. Byrd and Co., Ltd., Tricosal waterproofing; D. P. Battery Co., Ltd., secondary lighting and batteries; Architectural Industries, Ltd. (Tubelight Sales, Ltd.), tube lamps; Thornley and Knight, Birmingham, painting.

NEW PUBLIC WORKS

BIRMINGHAM.—Birmingham Hospital have accepted the tender of Messrs. Wilson Lovatt and Co., Ltd., Clarence-street, Wolverhampton, for the erection of the new medical school at the Birmingham Hospital Centre, Edgbaston, to cost over £180,000. The architects are Messrs. Lanchester and Lodge, FF.R.I.B.A., 19, Bedford-square, W.C.1.

GREAT BRITAIN.—Among the contracts advertised in this issue by local authorities as being open to tender are:—West Sussex, school buildings, clinic and caretaker's house; West Sussex, police station and three pairs of cottages; Coventry, school; Heston and Isleworth, school; Bedford, six schools; Rugby, 22 houses; Hertfordshire, casual wards; Ealing, schools; Croydon, chapel and crematorium; Marlborough, 22 houses; Yiewsley and West Drayton, six dwellings.

LEICESTER.—The Royal Leicester Infirmary have placed a contract with Messrs. William Moss and Sons, Ltd., Queen's-road, Loughborough, for the extension of their ward blocks, X-ray departments and out-patients' departments. The cost is estimated at about £60,000. The architects are Messrs. Pick, Everard, Keay and Gimson, 6, Millstone-lane, Leicester.

CURRENT & PROPOSED BUILDING WORK*

Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Engineer; D.S. for District Surveyor; C. for Clerk; T.C. for Town Clerk; C.E. for County Engineer; C.S. for County Surveyor; S. for Surveyor; E. for Engineer.

Aberdare.—E.C. appealing to Glamorgan C.C. to provide junior technical school.

Aldridge.—Mid-Staffordshire Joint Hospital Board (Chairman, J. H. Carter) propose isolation hospital, Cannock district.

Alfreton.—Plans approved for new King Alfred hotel, High-st., for Home Brewery Co.

Ashington.—Application to be made to Standing Joint Committee of Northumberland C.C. for permission to erect greyhound racing stadium at Portland-pk., Ashington. Promoters, F. W. Hindmarsh, builder, "Lyndhurst," Fawdon-ln., Gosforth, and J. R. Hindmarsh, also of Gosforth.

Ashton-under-Lyne.—Lancashire P.A.C. propose extensions to Lake Hospital, at £950. Plans by County Architect, Stephen Wilkinson, F.R.I.B.A., Preston.

Audenshaw.—E. V. Fitton, builder, Flixton, propose 24 houses, Booth House estate.

Bacup.—Borough Engineer, H. Guffogg, been instructed to prepare plans for fire station in Burnley-rd. for T.C.

Barnes.—T.C. approved plan by B.S. for convenience at East Sheen Cemetery, at £250.—Council given instructions for construction of paddling-pool in Vine-rd. recreation ground.—Plans passed: Proposed development of Popham estate, Mortlake-rd., comprising new road, 36 flats and 12 garages.

Beeston.—Home Brewery Co., Ltd., Daybrook Brewery, Arnold, Nottingham, proposing hotel, Meadow-rd. Plans by A. Wilson, architect, 45, Burton-st., Nottingham.

Biddulph.—Lancashire E.C. proposing extensions, Orthopædic Hospital, at £44,608. Plans by County Architect, Stephen Wilkinson, F.R.I.B.A., Preston.

Blackpool.—Corporation to purchase site, Topping-st., for new market. B.S. to amend plans for scheme.—Council approved plans for 51 houses, Carlyle, Napier and Tudor-avs. and Wimbourne-pl., R. Fielding & Son.—Council resolved that application be made to M.H. for sanction to borrowing of £8,133 for extensions to Layton branch library and reading-room, and for erection of proposed Highfield-rd. branch library and reading-room.—B.S. to prepare plans and estimates for public conveniences and transport passenger shelters, junction of Highfield-rd. and St. Annes-rd., and at Welcome Inn, Marton.—New public conveniences to be included in scheme for two-story structure over bus station in Talbot-rd. B.S. to amend plans accordingly.—Council approved sketch lay-out plan, submitted by B.S. from Whitaker & Gardner, in connection with lay-out of land off Layton-rd.—Application of J. S. Warburton to erect petroleum filling station at corner of Anchorsholme-ln. and Kelso-av. been acceded to.—North-East Lancashire Laundries Association received permission to establish private petroleum filling station in Bristol-av.—M.H. decided to allow appeal made by A. Wilson and Others for 6 shops, with living accommodation, on Newton Park estate.—Plan submitted by B.S. for café-buffet at south end of new cubicles at open-air bath been approved.—Dr. Oscar Faber accepted appointment as consulting engineer for foundations of new bath.—Council approved application by T. Brierley for permission to erect 4 shops and business premises corner of Collins-av. and Bispham-rd.—E. Wingfield-Bowles & Partners been appointed consulting engineers in connection with the heating, filtration and ventilation of new indoor bath.—Design submitted by Transport Manager for external construction of new transport vehicles been approved.—Application to be made to M.H. for sanction to borrowing of £11,613 for Technical College gymnasium block.—Plans passed: School, Stonycroft-av., Corporation; alterations and additions, Coronation-st., Trustees of the Trinity Methodist Church; alterations and additions, 202-204, Lytham-rd., Mrs. Chadwick; electricity sub-station, Cameron-av., Corporation; 24 houses, 2 garages, Worcester-rd., Pimley & Topping.—C. Westwell, 39, Charnley-rd., proposes hotel, Marton-dr. Plans prepared by Halstead Best, F.R.I.B.A., Leeds Buildings, 20, Clifton-st.—Blackpool Tower Co., Ltd., Empress-bldgs., proposing offices, workshops and storerooms, Tower-st., and shop and offices at 105, Church-st., for the Winter Gardens. Architect, Major J. C. Derham, L.R.I.B.A., Empress-bldgs.—Halstead Best, F.R.I.B.A. 20, Clifton-st. architect for hotel, café and roof garden at Britannia-pl., Promenade, for Nuttall's Brewery Co., Ltd., Lion Brewery, Blackburn. Tenders shortly to be invited.—A. Winstanley, L.R.I.B.A., 15, Great Ducie-st., is architect for residential hotel, Squires Gate-ln., South Shore, for J. M. Roberts, of Burnley.

Bolsover.—E. W. Bostock, architect, Morven-av., Hucknall, Notts, prepared lay-out plans for development of new estate on land from Woodhouse-rd. to Blind-ln., to be known as Castle estate, for A. F. Houlton, builder, 22, Bingham-rd., Sherwood-av., Nottingham.

Boston.—T.C. to build public swimming baths in South End-pk. at £17,000. Tenders to be shortly invited.

Brierley Hill.—J. P. Simpkiss, Dennis Brewery, Brettell-ln., proposes to rebuild "Old Bush" inn, Hinksford, on adjacent site. Architects, Webb & Gray, AA.R.I.B.A., 200, High-st., Dudley. Contracts not let.

Bury.—T.C. approved plans for 232 houses and six shops and houses off Radcliffe-rd. Teasdale & Sunter, architects, 4, St. Mary's-parsonage, Manchester. Contracts not placed.—Thompson & Brierley, Ltd., builders, Union Saw Mills, propose shopping centre, Manchester-rd. Norman Jones & Rigby, architects, Lord-st., Southport.

Buxton.—Rev. H. F. Edwards, The Vicarage, Tideswell, and Parochial Council proposing restoration of church roof and other alterations at £2,000. Architect, P. H. Currey, F.R.I.B.A., The Hatherings, Little Eaton, Derby. Contracts not yet placed.

Buxton.—T.C. propose development of Victoria Park-ln., fencing, sewering, streets works and housing, at £23,400. F. Langley, B.S.

Carlisle.—J. S. Stout, architect, 36, Lowther-st., Whitehaven, prepared plans for Methodist church, Currock-rd., for Methodist Chapel Trustees.

Cellarhead.—Staffordshire E.C. propose senior mixed school at Cellarhead for 240 scholars. Plans by County Architect, G. C. Lowbridge, L.R.I.B.A., Stafford.

Cheadle and Gatley.—U.D.C. propose 26 houses, A. Wrest, S.

Chichester.—Subject to approval of B. of E., tenders to be invited for alterations and additions, boys' secondary school.

Chichester.—R.D.C. has approved in principle sewerage scheme for East and West Wittering at £50,000.

Clitheroe.—Clitheroe Shirtings, Ltd., Grindleton Mills, propose extensions for offices, works and warehouse.

Cuckfield.—U.D.C. to proceed with 30 houses, Bentswood-cres., Lindfield.

Darlaston.—Surveyor submitted lay-out plans for 174 houses on Rough Hay estate.

Darlington.—T.C. approved: H. B. Richardson, for J. C. Moody, additions to warehouse, Melland-st.

Denton.—W. J. West, Moorfield estate, 2, Trees-ln., proposes installation of electric light, painting and decorating of 248 houses. Tenders to be invited.

Doncaster.—Gas and Electricity Committees propose joint schemes for showrooms in Silver-st.—Race Committee propose improvements to restaurant, administrative block and Press room at racecourse. Plans by R. E. Ford, Racecourse Surveyor, 3, Priory-pl.

Dronfield.—W. Stones, Ltd., Cannon Brewery, Sheffield, propose hotel, junction of Chesterfield-rd. and Cemetery-rd. Plans prepared by Wilcockson & Cutts, architects, Saltersgate, Chesterfield. Cost £5,000.

Dukinfield.—T.C. propose alterations to Town Hall. Eaton & Sons, architects, Stamford-st., Ashton-under-Lyne.

Durham.—Sanction been received by R.D.C. to borrow £1,050 for purchase of eight acres of land at East Hetton for working-class houses. R. Dodds, S., Byland Lodge.

East Ham.—C.B. recommend repairs, etc., to cost £1,050, at infectious diseases hospital, and £390 for same at Harts Sanatorium.—Council to negotiate for erection of a maternity hospital.—Plans passed: Alterations, 221, High-st. North, R. J. Slater, architect; alterations, 375, Barking-rd., R. J. Slater, architect; 4 double-tenement houses, 165-171 and 165a-171a, Gainsborough-av., R. J. Slater, architect.

Epsom.—Rebuilding of parish church to be completed.

Flixton.—Lancashire Education Committee propose infants' department at Flixton Council school, Manchester. Plans by County Architect, Stephen Wilkinson, F.R.I.B.A., Preston. Cost £1,200.

Folkestone.—T.C. approved:—Dressing boxes, café, open-air swimming pool, etc., Lower Sandgate-rd., Folkestone Bathing Co., Ltd.

Gateshead.—T.C. approved in principle provision of general hospital.

Glossop.—E.C. propose medical clinic and child welfare centre.

Grantham.—Mowbray, Ltd., brewers, to erect hotel to be styled "Three Gables" at Signal-rd. Tenders to be invited.

Gravesend.—Subject to consent of M.H., Corporation to construct a bathing pool at £20,807. Architect, J. Garnett Bennett, Borough Architect.

Great Harwood.—Lancashire E.C. propose to acquire Parish C.E. boys' school for adaptation as junior school. Plans for alterations by County Architect, Stephen Wilkinson, F.R.I.B.A., Preston. Cost £1,090.

Halesowen.—U.D.C. propose 62 houses, Two Gates estate, G. Sparr, S.

High Hawksoston.—New hotel proposed by Aitchesen & Co., Ltd., Newcastle, at corner of Barndon-rd. and Grange-pk. at £15,000.

Kidderminster.—Tenbury Baths, Ltd., motor car agents, proposing "Road House" near Alveley swimming pool. Architects, Webb & Gray, 200, High-st., Dudley. Contracts not yet placed.—T.C. to acquire isolation hospital site (about 11 acres) for housing purposes.—E.C. are proposing senior school.

Lancaster.—Managers of Scotforth C.E. junior schools are proposing additions.

Leeds.—Prices (Tailors), Ltd., to invite tenders for further large extensions to factory at Cardigan Fields. Plans by —, Nicolle, architect to company. Quantities by Priestleys & Sons, Leeds.—Rev. Fr. W. H. Moverley, St. Phillips R.C. Church, Middleton, given notice of intention to erect elementary school at Middleton Park-av. to accommodate 250 children.

Lincoln.—Bracebridge Mental Hospital Visiting Committee to erect nurses' home to accommodate 160 nurses at £36,000. Architect, H. S. Hall, L.R.I.B.A., 32a, Old Market-pl., Grimsby.

Littleborough.—U.D.C. propose rehousing scheme at Shore.

Liverpool.—Corporation recommend piece of land containing 650 acres of Speke estate being transferred to Housing Committee.—Health Committee to be requested to waive any Town Planning Restrictions so far as they relate to land junction of Queen's-dr. and Edge Lane-dr., Highfield estate, so as to permit of its development for housing purposes.

London (Bermondsey).—L.C.C. recommend borrowing by B.C. of £8,000 for housing and street improvements for Arnolds-pl. clearance areas.

London (City).—Corporation recommend repairs to railings and stairs on staircases leading from King William-st. to Upper and Lower Thames-st., at £450.

London (Deptford).—B.C. received communication from L.C.C. stating that that Council had decided to acquire 2 blocks of property between Alvar-st. and railway, extending from Church-st. to Knott-st. It is proposed to use property for temporary rehousing purposes, with view to its ultimate redevelopment by erection of block dwellings.

London (Greenwich).—B.C. recommend sanitary convenience accommodation for both sexes be provided in vicinity of Charlton Village by conversion of the first floor of "Garden House," situate in grounds of Charlton House, in accordance with plan prepared by B.E. and S., at £280.—Works Committee to be asked to undertake work.—Council to carry out redecorative work at public baths and wash-houses in accordance with B.E. and S.'s estimate of £475.—Redecorative and repair work to properties on Council's housing estates during financial year 1936-37 to be carried out at £10,030.—L.C.C. recommend borrowing by B.C. of £1,646 for electricity in flats being erected in connection with Lamb-la. clearance scheme.

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Agents Everywhere.

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*** In these lists every care is taken to ensure that information given is accurate and up to date, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced.

London (Stepney).—L.C.C. recommend additional cubical extent at 30-40, Commercial-rd., East, Stepney, as submitted by M. de Metz, architect.

London (Wandsworth).—B.C. approved suggested alterations of lay-out of block P, Putney Vale Cemetery.—Plans passed: F. J. Leather, additions to Wandsworth Constitutional Club, 66, St. Ann's-hill.

Long Eaton.—J. F. Dodd, architect, 2, Waverley-st., prepared plans for 34 houses at Toton for Long Eaton Co-operative Society, Ltd., Station-st.

Lowestoft.—T.C. approved: Lay-out plan of building estate, Yarmouth-rd., Oulton Broad, A. E. Ingles; Warnes & Sons, 104 houses, St. Margaret's-rd. estate.

Manchester.—Plans approved by T.C.:—Offices, Mayes-st., Redfern-st., Manchester, Co-operative Wholesale Society, Ltd., Balloon-st.; 94 houses and 28 flats, Briscoe-la., Mitchell-st., etc., Newton Heath; 242 houses and 20 flats, Brownley-rd., etc., Sharston Mount area, Northenden, Corporation; 34 houses and lay-out plans of Burnage-la., Riva-rd. and Albury-dr., East Didsbury, B. B. Bender, 31, Gt. Clowes-st., Broughton; new offices to brickworks, East-rd., Longsight, J. & A. Jackson, Ltd. (architects, Wrathmell & Blackshaw, Queen's-chams., St. Peter-sq., Stockport), factory, Webster-st. and Greenhill-st., Greenheys-la., J. A. Prestwood & Co., Ltd., 43, Webster-st., Greenheys.—W. Johnson & Sons, architects, 27, Oldham-rd., Miles Platting, preparing plans for rebuilding "Friendship" inn, 294, Hyde-rd., Gorton. Contracts not let.—Housing plans approved by T.C.:—36 houses, Haxeldene-rd., New Moston, for A. Hogg, 70, Crumpsall-la. (architects, Roberts & Wood, 26, King-st.); 136 houses, Wood-rd., Baguley, Beccles Wood Estate Co., Ltd., Wood-rd., Framingham-rd., Sale (H. Davies, architect, 4, St. Mary's-parsonage), 46 houses, Clough-rd., Blackley (architects, Broughton Atkinson & Eagle & Co., 37, Brown-st.); 36 houses, Glenbrook-rd., Blackley, J. Saxon, builder, 27, Brooklands-rd., Crumpsall.

Middlewich.—J. Steventon & Co., Ltd., to erect pottery works on site of Electro bleach works.

Mirfield.—British Legion to erect new branch headquarters at Trinity-st. at £600. Plans by Firth, Sons & Blackburn, architects, Dewsbury. Tenders to be invited.

Morecambe.—Council approved scheme for widening of promenade and new sea wall at west end of the town at £50,000.

Monkseaton.—J. Aitchison & Co., Ltd., brewers, St. Mary's-pl., Newcastle, propose to build hotel at £15,000.

New Brighton.—Development of Old Palace site at £250,000.

Newcastle (Staffs).—T.C. propose development of Bradwell Hall Farm estate for housing site. S. A. Wilmot, architect, Bournville Estate Office, Birmingham.—Libraries Committee propose branch libraries at Wolstanton and Silverdale.—T.C. propose public conveniences in Pepper-st.—F. R. Lawson, architect, 36, Glebe-st., Stoke-on-Trent, preparing plans for development of Highfield Farm estate, Wolstanton, for about 600 houses, for G. H. Downing, Clayton Lodge, Newcastle.

Newcastle-on-Tyne.—Chapman & Co., furniture manufacturers, acquired additional premises for extensions to showrooms. Rotherington & Wilson, County-chams., firm's architects.—J. Lowrie, carr merchants, etc., propose factory in Brinkburn-st. Plans by J. N. Watkin, 17, Bigg-market, been approved. Contract not let.—Extensions to be made to laundry of eye infirmary in St. Mary's-pl. Plans by Newcombe & Newcombe, Eldon-sq.—Extensions to be made to St. Catherine's Convent at Jesmond. Plans by R. Burke, Singleton House, been approved. No contract let.—Extensive alterations and additions are to be made to St. Catherine's Convent and Nursing Home, Jesmond-rd. Preliminary plans by Robert Burke, Singleton House, Northumberland-st. No contracts placed.—New offices and showrooms to be built at Gallowgate for Scott & Turner, Ltd. Plans by Cackett, Burns-Dick & MacKellar, 21, Ellison-pl. No contracts let.—T.C. have made application to M.H. for sanction to borrow approx. £56,000 for land and property leases of site approved by C.C. for proposed new municipal buildings.

Northallerton.—U.D.C. to carry out alterations to Town Hall at £2,400.

Northants.—Standing Joint Committee propose rebuilding Towcester police station at £15,000, and extensions to County Buildings, Northampton, £25,000. George H. Lewin, F.R.I.B.A., County Architect, Northampton.—E.C. propose schools at Daventry at £19,600; additions to Wellingborough high school, £4,000; senior school at Thrapston, £19,500; health centre on Corby, £5,300; additions, Rockingham-rd. schools, Corby, £2,300; infants' school, Tennyson-rd., Rushden, £9,000; senior and infants' school at Raunds, £14,000; and health centre at Wellingborough, £2,900.

Oakengates.—U.D.C. to erect 50 houses.

Padiham.—U.D.C. propose development, Back Garden-st. site, for 86 houses.

Portsmouth.—City Council received sanction from M.H. to loan of £34,216 for Hilsea swimming pool.

Retford.—Hewitt Bros., Ltd., brewers, Grimsby, propose rebuilding "Plough" inn, Ordsall.

Rochdale.—Housing Committee propose 520 houses on Brotherod estate. S. H. Morgan, B.S.—B.S. to prepare lay-out plan for rebuilding League-st. area.—E.C. propose senior schools at Green Bank and Lower-pl.—B.S. to invite tenders for senior school at Brimrod.

Rotherham.—B.E. prepared plans for motor omnibus and garage at transport depot at £15,000.—T.C. propose assembly hall for Young People's Centre on Eastwood housing estate.—Vincent Turner, Borough Engineer, prepared plans for fire station, repair shop, drying tower and 25 dwellings for firemen on land adjoining Russell-st. and Ireskine-rd., for T.C.—E.C. approved:—Hall & Jenkinson, Gilberthorpe-st., Gilberthorpe-st. (extension), Gilberthorpe-dr., Middle-la., 76 houses (18 houses type A, 60 houses type B); J. J. Habershon & Sons, Ltd., Holmes Bolting Mills, extension to works offices; F. Dobson, Wortley-rd. and Brookhill, Thorpe, 24 houses.—T.C. has received sanction to borrow £102,400 for 332 houses at Herringthorpe and Canklow-rd.—Steel, Peech & Tozer, Ltd., Ickles, proposing 22 Jubilee cottages.

Runcorn.—U.D.C. approved:—26 semi-detached houses in Victoria-rd. for North-Western Estates Development, Ltd.

Rushden.—W. W. Chamberlain & Sons, Sartoria-rd., proposing factory at Higham Ferrers. Plans prepared by Talbot, Brown & Fisher, Burystead-pl., Wellingborough.

Scarborough.—Corporation considering new bathing pool at North Bay, swimming and slipper baths, extensions to Town Hall, alterations to the Corner Café conveniences at Falsgrave-rd., and new senior school at Northstead estate at £16,901.—Jones & Rickaby, 102, Westborough, preparing plans for new hotel at Esplanade-gdns., for Brooklands Hotel Co.

Sheffield.—Board of Management of Sheffield Royal Hospital propose convalescent home. Chapman & Jenkinson, F.R.I.B.A., architects, Norfolk-row, Sheffield 1.—E. Cooper, builder, Ridgeway-rd., proposes to develop land off Seagrave-rd. for 215 houses.—Plans approved by T.C.:—20 houses, J. H. Naylor & Son, Newlands-gr.; offices, West-st., E.C.; rebuilding "Fisherman's Rest" public-house, Tinsley Park-rd., Whitworth, Son & Nephew, Ltd., Wathon-Dearne; offices and storerooms, Arundel-st., A. Bridgens; rebuilding "New Barrack" inn, Penistone-rd. and High House-ter., D. Gilmour & Co., Ltd., Dixon-in.—W. C. Fenton, 10, Paradise-st. is the architect for rebuilding "New Barrack" tavern, Penistone-rd. and High House-ter., for Duncan Gilmour & Co., Ltd., brewers, Dixon-in.

South Shields.—Sutton Housing Trust to build 90 more houses and flats on Sutton estate and also an institute to seat 900 people. C. S. Errington, Victoria-bldgs., Grainger-st., Newcastle, architect.

Southampton.—T.C. approved:—Lloyd & Jenkins, 28 houses, Cobden-cres.; E. Brown, Selby Motors, Ltd., motor showrooms, 362, Shirley-rd.; Weston, Burnett & Thorne, S. W. Duggins, warehouse, Millbrook-rd.; D. G. Millett, Trust Houses, Ltd., office and 6 lock-up garages, "Dolphin" hotel, High-st.; A. J. Seal & Pinrs., alterations, 156 to 160, High-st.; Montague Burton, Ltd., reconstruct shop, 4 and 4a, High-st.; Timothy Whites & Taylors, Ltd., alterations and additions, 40 and 42a, Above Bar-st.

Speen, nr. High Wycombe.—Alister MacDonald to design an addition to inn, "Ye Olde Plow."

Springhead.—Whitehouse & Stubbs, builders, Oldham-rd., Grotton, Oldham, propose 86 houses, Lido estate, Grotton. Plans by Fred Thorpe, architect, Union Bank-bldgs., Oldham.

Stockport.—Tenders to be invited for new Church of St. Thomas' Heaton Chapel, for Rev. F. Whatmough, The Rectory, Heaton Chapel and Parochial Council. Architect, Bernard A. Miller, F.R.I.B.A., 5, Abercrombie-sq., Liverpool. Cost £10,000 to £12,000.—E.C. propose secondary school on maternity home site, Mile End.

Stockton-on-Tees.—Scheme for 70 houses in Colchester-rd., Malden-rd. and Sudbury-rd. been prepared by G. P. Stainsby, 25, High-st., Stockton, for H. Cohen, "Engadine," Hartburn.—Montague Burton, Ltd., tailors, Hudson-rd. Mills, Leeds, to erect shop premises in High-st. Plans by N. Martin, Staff Architect. No contracts placed.—Work is to proceed on scheme for extensive additions to grammar school. Tenders now being obtained. Plans by G. P. Stainsby, 25, High-st.

Stourbridge.—Worcestershire C.C. propose additional bedroom accommodation at Mary Stephens maternity home. Architect, Martin & Martin and W. H. Ward, 106, Colmore-row, Birmingham.

Stourport.—P. Hall & Sons, builders, Worcester-rd., West Hagley, propose 34 houses at Burlish.

Stratford.—E.C. approved plans for erection of Stretford technical college in Talbot-rd., Old Trafford. Plans by Stephen Wilkinson, F.R.I.B.A., County Offices, Preston. Cost £66,538.

Sunderland.—W. Rutherford, builder, Sea-rd., to erect 36 houses in Dacre-rd., on Mere Knolls estate, to plans by Hugh T. D. Hedley, 49, Frederick-st.—Plans for sports pavilion at Hylton-rd. playing fields for E.C. been approved. No contracts let. Architect is O. H. Mark, Education Offices, John-st., Sunderland. No contracts placed.—Plans approved for rebuilding of Sans-st. Mission Church, High-st. East and Sans-st., for the Trustees. Architects, W. & T. R. Milburn, 17, Fawcett-st.—I. Grieve & Co., cabinet makers, Villers-st., to erect upholstering works in Back Villers-st. and Sans-st. Plans by W. & T. R. Milburn, 17, Fawcett-st.—Scheme been drawn up by W. and T. R. Milburn, 17, Fawcett-st., for 92 houses on St. Aidan's estate, South. Plans approved and builders will be J. & T. Parker, Ltd., St. Oswald's House.—Plans being prepared by L.N.E.R. Engineer (North-Eastern Area) York, for construction of railway station at Fulwell, nr. Redhy Council schools.—Plans approved by T.C. for block of 22 flats fronting High-st. Cost £9,110. Plans by J. E. Lewis, B.E.—T.C. approved plans by J. Potts & Sons, John-st., Sunderland, for 47 pairs of semi-detached houses on estate north of Thompson-rd., and lay-out plans for other houses on the estate.—Licensing Justices granted licence for hotel on Durham-rd., for F. L. Robson, Sunderland. W. & T. R. Milburn, 17, Fawcett-st., Sunderland, architects.—T.C. approved plans by G. E. Matkin, Barclays Bank-cham., for mixed senior school in King's-ter., in connection with St. Joseph's R.C. Church. Cost is about £10,000. Contract has not been let.—Commissioner for Special Areas provisionally approved nurses' hostel at Municipal Hospital, at £25,000. J. E. Lewis, B.E.—Vaux & Co., Ltd., brewers, intend to build hotel in St. Luke's-ter. Plans approved. W. & T. R. Milburn, 17, Fawcett-st., architects.—Brewster Sessions granted permission to F. L. Robson, Bridge-st., to erect hotel in Durham-rd., to be called the "Barnes Hotel." Architects are G. T. Brown & Son, 51, Fawcett-st.

Swansea.—C.B. appropriated land in Derwen Fawr-rd. for sub-station.—Borough Architect prepared sketch plans for new grammar school.—Parks Superintendent, Borough Architect and B.E. and S. to prepare scheme for development of foreshore from West Pier to Caswell Bay.—B.E. and S. submitted plan for lay-out of roads, sewers and surface water drains for erection of 234 houses on Gelligrafog housing site, at £20,341.—Officials concerned to prepare and submit scheme for provision of community centre on Townhill housing estate.—Director of Education reported that he had received approval of B. of E. to erection of second block to Gors Council school. Borough Architect to advertise for tenders.—Piece of land rear of 29 and 31, Grenfell Park-rd. to be granted to East Side Unemployed Association for welfare hall.—Ministry of Labour gave consent to Authority's proposals for adapting Old Guildhall for use as junior instruction centre for boys.—Plans passed: Showrooms and offices, Mansel-st., W. & R. Cook, Ltd.; alterations and additions, Carmarthen-rd., Swansea and District Co-operative Society; 14 houses, Harlech-cres., T. & G. Spragg; rebuilding "Black Boy" public-house, Gower-rd., Killay, Mrs. Blackmore; rebuilding 83 and 84, Woodfield-st., L. B. Lewis.

Swinton and Pendlebury.—E.C. propose senior boys' department for 360 scholars at Cromwell-rd. Council school; extensions to Moorside Council school; and erection of open-air school. H. Entwistle, B.S.

Tadcaster.—Tenders invited for Council offices for R.D.C. Plans by J. C. Worthington, architect.

Wakefield.—T.C. approved: L. Holdsworth, dance hall, Market-st. and White Horse-yd., George-st. Assembly Rooms, Ltd.; Newbald & Hartley, 14 houses, Farne-av., Nanbir, Ltd.—City Surveyor, L. Ives, prepared plans for proposed School of Arts and Crafts for E.C.—T.C. propose technical school on Balne-la.

Worthing.—T.C. approved: Alterations and additions to 28 and 30, Chapel-st., Boots (Southern), Ltd.; two blocks of lock-up garages and one block of garages with first-floor living accommodation, Mill-rd., Onslow Estates (Worthing), Ltd., per M. R. Fletcher; 30 houses and garages, Hollingbury-gdns., H. W. Adams (Worthing), Ltd., per H. W. Adams.—R.D.C. to erect 24 cottages, Findon.

PRICES CURRENT OF MATERIALS*

Owing to the exceptional circumstances which prevail at the present time prices of materials should be confirmed by inquiry.

PRINCIPAL CHANGES OF THE WEEK: Lead in all forms, advances by 10s. per ton.

BRICKS, &c.

Per 1,000 Alongside in River Thames up to Mortlake.

	£ s. d.
Best Stocks	4 2 0
Second Hand Stocks	3 10 0

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
"Phorpres"	*2 8 3	Flettons, B'll'n'se	3 6 6
Flettons at King's Cross	*2 8 1	Best blue Pressed Staffs	8 5 0
Do., grooved for Plaster	*2 10 3	Do. Bullnose	8 15 0
		Blue Wire Cuts	7 0 0
White Midhurst Facing Bricks (delivered London site)			5 0 0
"Phorpres" Whites (King's Cross)			*3 11 3
"Phorpres" Rustic Facings (King's Cross)			*3 6 3

Best Stourbridge Fire Brick :—
2½ in. ..... 7 15 0 3 in. 8 15 0
*Delivered to site in W.C. district, 6s. extra per 1,000.

GLAZED BRICKS—

Best White Ivory and Salt Glazed Stretcher	23 0 0	Db'le Str'tch'rs	31 10 0
		D'ble Headers	28 10 0
		One side and two Ends	32 10 0
Headers	22 10 0	Two sides and one End	33 10 0
Quoins, Bull-nose and 4½in. Flats	29 10 0	Splays and Squints	30 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

PARTITION SLABS.

Delivered London Area.

CLINKER CONCRETE.

2" per yd. sup	1 6	3" per yd. sup.	2 0
2½ " "	1 8	4" " "	2 4

CRANHAM TERRA COTTA.

2" per yd. sup.	3 0	3" per yd. sup.	5 8
2½ " "	3 6	4" " "	4 7

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 6	12" x 9" x 3"	3 0
12" x 9" x 2½"	2 9	12" x 9" x 4"	3 9

	Per yard super d/d.	Free on site, London. s. d.	
Thames Ballast		7 3	per yd.
Pit Ballast		6 3	" "
Pit Sand		7 9	" "
Washed Sand		8 3	" "
¼ in. Shingle		7 3	" "
¾ in. Broken Brick		11 3	" "
Tan Breeze		8 3	" "

delivered 2 miles radius Paddington.

CEMENT.

Best British Portland Cement, Standard Specification, delivered London Area in jute sacks (11 to ton), or paper bags (20 to ton) free (non-returnable) :—

	£ s. d.
4 ton loads and upwards site.....Per ton	1 19 0
1 ton to 4 tons site	2 1 0
Alongside Vauxhall in 80-ton lots	1 15 0
"Ferrocrete" Rapid Hardening Cement :—	
4 ton loads and upwards site	2 5 0
1 ton to 4 tons site	2 7 0
Alongside Vauxhall in 80-ton lots	2 1 0

NOTE.—Jute sacks are charged 1s. 6d. each and credited 1s. 6d. nett, if returned in good condition within three months, carriage paid.

Water-Repellent "Blue Circle" Cement, 30/- per ton extra on ordinary "Blue Circle" Portland Cement prices.	
"Colorcrete" Nos. 1 and 2 Coloured Rapid Hardening Portland Cement in 1-cwt. paper bags free (non-returnable) in 1-ton lots and upwards site	5 6 0
"Snowcrete" White Portland Cement in 1-cwt. paper bags free (non-returnable) 1 ton and upwards site	8 15 0
Super Cement (Waterproof) paper bags free	3 9 0
Roman Cement	6 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
" " Pink	5 10 0

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink	2 17 0	Sirapite, Coarse	3 5 0
" White	3 9 6	Finish	3 13 0
Pioneer	3 1 0		
Super Carbo	2 7 6	4-ton loads over London Area, paper bags free.	
Carbo Setting	2 12 6		
Best Ground Blue Lias Lime	1 17 6	Grey Stone Lime	2 2 0
		Chalk Lime	2 2 0
GraniteChippings	1 12 0	Hair per cwt.	2 2 0

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d., if returned in good condition within three months carr. pd.
Stourbridge Fireclay in sacks 37s. 0d. per ton at rly. dep.

STONE.

	s. d.
BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 10
BEER STONE—RANDOM BLOCK—	
Free on rail at Seaton Station, per ft. cube	2 3
Delivered free on rail Nine Elms, S.R. per ft. cube	3 1½
Selected approximate size one way, 1d. per cubic foot extra ; selected approximately three sizes or for special work, 3d. per cubic foot extra.	
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 4½
Do. do., delivered on road waggons at above stations, per ft. cube	4 5½
White basebed, 3d. per ft. cube extra.	
NOTE.—1d. per ft. cube extra for every foot over 20 ft. average, and ½d. beyond 30ft.	
HOPTON-WOOD STONE—	s. d.
F.O.R. Quarries, Wirksworth Derbyshire. Random blocks from 10ft. and over P. ft. cub	14 0
Sawn two sides	22 6
HOPTON WOOD STONE—	s. d.
Sawn three or four sides	27 9
CHILMARK—RANDOM BLOCK—	
At Nine Elms, per ft. cube	3 11
YORK STONE, BLUE—*Robin Hood Quality.*	
Delivered at any Goods Station London.	
6in. sawn two sides landings to sizes (under 30 ft. super) Per ft. super	5 6
6in. rubbed two sides, ditto "	6 0
3in. sawn two sides slabs (random sizes) "	2 3½
2in. to 2½in. sawn one side slabs (random sizes) "	1 6½
1½in. to 2in., ditto "	1 3½
HARD YORK—	
Delivered at any Goods Station, London.	
Scappled random blocks Per ft. cube	6 3
6-in. sawn two sides landing to sizes (under 40 ft. super) Per ft. super	5 1½
6in. rubbed two sides, ditto "	6 1½
4in. sawn two sides slabs (random sizes) "	3 1½
3in. ditto ditto "	2 5
2in. self-faced random flags Per yd. super	7 6

CAST STONE.

Delivered in London area in full van loads, per ft. cube : Plain, 7s. 6d. ; Moulded, 8s. 6d. Sills, 10s. 6d.

SOFT WOOD.

GOOD BUILDING DEAL.

Inches.	Per stan.	Inches.	Per stan.
4 × 11	£23 10	3 × 6	£18 10
4 × 9	22 10	3 × 11	19 10
4 × 8	21 0	2 × 11	19 10
4 × 7	19 0	3 × 9	19 10
3 × 8	17 10	2½ × 9	19 10
3 × 7	18 0	3 × 4½	17 10
2½ × 7	18 0	3 × 4	17 10

PLANED BOARDS.

1 × 11	£22 10	1 × 9	£21 0

PLAIN EDGE FLOORING.

Inches	per sq.	Inches.	per sq.
¾	16/-	1¼	25/-
½	17/-	1½	31/6
1	19/-		

TONGUED AND GROOVED FLOORING

Inches.	per sq.	MATCHING (BEST) Inches.	per sq.
1	21/-	¾	16/-
1¼	26/-	½	18/6
1½	32/6	1	22/6

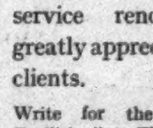
ins. BATTENS	s. d.	SAWN LATHS.	s. d.
¾ × 2 per 100ft.	2 6	Per bundle	2 3

HARD WOOD.

1 INCH AND UP THICK.

Average price for prime quality.	£ s. d.
Dry Austrian Wainscot, per ft. cube	0 15 0
Dry American and/or Japanese Figured Oak, per ft. cube	0 12 0
Dry American and/or Japanese plain Oak, per ft. cube	0 10 0
Dry sq. edged Honduras Mahogany, per ft. cube	0 14 0
Dry log-cut Honduras Mahogany, per ft. cube	0 16 0
Dry Cuba Mahogany, per ft. cube	1 1 0
Dry Teak, per ft. cube	0 14 0
Dry American Whitewood, per ft. cube	0 10 0
Best Scotch Glue, per cwt.	3 0 0
Liquid Glue, per cwt.	4 7 0 to 5 10 0

HUDDERSFIELD Building Society



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First quality slates from Bangor or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	29 15 0	18 by 10	15 12 6
22 by 12	25 0 0	12 by 9	13 15 0
22 by 11	22 10 0	16 by 10	13 10 0
20 by 12	22 0 0	16 by 8	10 7 6
20 by 10	19 7 6		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons.

	Per 1,000 f.o.r. London.
Best machine-made tiles from Bromley or Staffordshire district	£4 2 0
ditto hand-made ditto	4 10 0
Ornamental ditto	4 15 0
Hip and valley tiles } Hand-made	0 8 9
(per dozen) } Machine-made	0 3 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—	£ s. d.
R.S. Joists, cut and fitted	£12 0 0
Plain Compound Girders	14 10 0
Stanchions	16 10 0
In Roof Work	19 0 0

MILD STEEL ROUNDS.—To London Station, per ton.

Diameter	£ s. d.	Diameter	£ s. d.
¼ in.	12 10 0	⅝ in. to ½ in.	11 0 0
⅜ in.	11 10 0	¾ in. to 2½ in.	10 15 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks)

	Standard Wrot. Mild Steel Tubes and Tubulars Sizes ⅛in. to 6in. %	Genuine Wrot. (Puddled) Iron Tubes and Tubulars Sizes ⅛in. to 6in. %	Standard Fittings Sizes ⅛in. to 6in. %	Standard Flanges Sizes ⅛in. to 6in. %
Gas	65	52½	57½	70
Water	61½	48½	52½	65
Steam	57½	45	47½	60
Galv. gas	52½	40	47½	60
Galv. water	47½	35	42½	55
Galv. steam	42½	30	37½	50

C.I. HALF-ROUND GUTTERS—London Price ex Works.

Per yd. in 6ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/5½	1/1½	4½d.
3½ in.	1/6½	1/3	5½d.
4 in.	1/8½	1/4½	6½d.
4½ in.	1/8	1/6½	9½d.
5 in.	1/10½	1/8½	10d.

O.G. GUTTERS.

3 in.	1/7½	1/5½	7d.
3½ in.	1/9½	1/5½	7½d.
4 in.	1/11	1/6½	8½d.
4½ in.	2/0	1/9½	9½d.
5 in.	2/4½	2/0½	11½d.

RAIN WATER PIPES, &c.

Per yd. in 6 ft.	Pipe.	Bends, stock Branches, angles, stock angles.
2 in.	2/2½	1/4½ 2/0
2½ in.	2/3½	1/6½ 2/4½
3 in.	2/9½	1/11 2/10½
3½ in.	3/3½	2/3½ 3/3½
4 in.	3/9	2/9 4/0½

Less 20 per cent. trade discount.
Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices ex Stock.

	Pipe.	Bends, stock Branches, angles, stock angles.
	s. d.	s. d. s. d.
2in. per yd. in 6ft.	2 9½	2 0 2 5½
2½in. "	3 2	2 2½ 3 0½
3 in. "	3 6	2 5½ 3 7½
3½ in. "	3 9½	3 0 4 2½
4 in. "	4 2½	3 4½ 4 10½

L.C.C. COATED DRAIN PIPES—London Prices ex Stock.

	Pipe.	Bends, stock Branches, angles, stock angles.
	s. d.	s. d. s. d.
3in. per yd. in. 9ft. length	3 4½	4 4 7 0
4in. " 1 1 20..	5 1	5 0 8 6
5in. " 1 2 22..	6 6	8 9 13 9
6in. " 2 0 6..	7 8	10 3 15 0

Gaskin for jointing 41/- per cwt.

	Per ton in London. £ s. d.	£ s. d.
IRON—		
Common bars	10 0 0 to	10 10 0
Staffordshire Crown Bars—		
Good merchant quality	11 0 0 to	11 10 0
Staffordshire Marked Bars	14 10 0 ..	15 10 0
Mild Steel Bars	9 10 0 ..	10 10 0
Steel Bars, Ferro-Concrete quality, basis price	9 0 0 ..	9 10 0
Hoop iron, basis price	11 10 0 ..	12 10 0
" Galvanised	28 0 0 ..	29 0 0

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the average prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS—(*contd.*).

Per ton in London.

IRON—	£ s. d.	£ s. d.
Soft Steel Sheets, Black—		
Ordinary sizes, to 20 g.	11 10 0 ..	12 0 0
" " 24 g.	12 10 0 ..	13 10 0
" " 26 g.	14 10 0 ..	15 10 0
Sheets Flat Best Soft Steel, C.R. and O.A. quality—		
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	15 0 0 ..	16 0 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	17 10 0 ..	18 10 0
No. 1 quality £4 per ton extra.		
Flat and Galvanised Corrugated Sheets—		
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	14 0 0 ..	15 10 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	16 10 0 ..	17 10 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	17 10 0 ..	19 0 0
Sheets, Galvanised, Flat, Best quality—		
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	15 10 0 ..	17 10 0
Best Soft Steel Sheets, 22 g. and 24 g.	16 0 0 ..	18 0 0
Best Soft Steel Sheets, 26 g.	17 10 0 ..	19 10 0
Nut Nails, 3 in. to 6 in.	16 10 0 ..	18 0 0
(Under 3 in. usual trade extras.)		

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

		s. d.
Seamless Copper tubes (basis)	per lb.	0 9
Strong sheet	"	0 10
Thin	"	0 11
Copper nails	"	1 0
Copper wire	"	0 11

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	70/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	174/-	200/-	588/- per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.

¾ in.	1 in.	
39/-	60/-	116/6 per doz.

CAPS AND SCREWS.

1½ in.	1¾ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	11/-	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1½ in.	2 in.	3 in.	3½ in.	4 in.	
10/-	13/-	20/-	24/-	31/-	per doz.

NEW RIVER PATTERN CROYDON BALL VALVES S.P.

½ in.	¾ in.	1 in.	1½ in.	1½ in.	
35/-	56/-	96/-	162/-	228/-	per doz.

DRAWN LEAD P. & S. TRAPS WITH GLAND CLEANING SCREW.

	1½ in.	1¾ in.	2 in.	3 in.	
6 lbs. P. traps	33/-	41/-	56/-	101/-	per doz.
8 lbs. S. traps	35/-	45/-	66/-	120/-	per doz.

TIN.—English ingots, 2/6 per lb. SOLDER.—Plumbers', 1/1, Tinmen's 1/3, Blowpipe 1/4 per lb.

LEAD, &c.

(Delivered in London.)

	£ s. d.
LEAD.—Sheet, English, 4 lb. and up	24 10 0
Pipe in coils	24 10 0
Soil pipe	30 0 0
Compo pipe	31 0 0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra, and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills ..... per ton } £15 0 0

PAINTS, &c.

		£ s. d.
Raw Linseed Oil, in pipes	per gallon	0 3 0
" " in barrels	"	0 3 2
" " in drums	"	0 3 4
Boiled " " in barrels	"	0 3 5
" " in drums	"	0 3 7
Turpentine, in barrels	"	0 4 2
" in drums (10 galls.)	"	0 4 4
Genuine Ground English White Lead, per ton (In not less than 5-cwt. casks.)		49 0 0

Extra for 1-cwt. kegs over 5-cwt. casks is 5/9 cwt.

GENUINE WHITE LEAD PAINT.

"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polaco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots per ton delivered £ s. d. 68 0 0

Red Lead, Dry (packages extra)	per ton	37 0 0
Best Linseed Oil Putty	per cwt.	0 13 0
Size. XD quality	firkn.	0 2 6

VARNISHES, &c.

Per gallon.

Oak Varnish	Outside	0 14 0
Fine Do.	Do.	0 16 0
Fine Copal	Do.	0 18 0
Pale Copal	Do.	1 0 0
Pale Opal Carriage	Do.	1 4 0
Best Do.	Do.	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	Do.	0 18 0
Fine Copal Cabinet	Do.	1 2 0
Fine Copal Flatting	Do.	1 0 0
Hard Drying Oak	Do.	0 18 0
Fine Hard Drying Oak	Do.	0 19 6
Fine Copal Varnish	Do.	1 0 6
Pale Do.	Do.	1 12 0
Best Do.	Do.	1 2 6
Best Japan Gold Size		0 12 6
Best Black Japan		0 10 0
Oak and Mahogany Stain (water)		0 12 0
Brunswick Black		0 7 6
Berlin Black		0 14 0
Knotting (patent)		0 15 0
French and Brush Polish		0 12 0
Liquid Dryers in Terebene		0 9 0
Cuirass Black Enamel		0 7 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

ORDINARY GLAZING QUALITY & SELECTED GLAZING QUALITY.

per ft. super		per ft. super
15 oz. O.G.Q.	2½d.	32 oz. O.G.Q. 6½d.
15 " S.G.Q.	2½d.	32 " S.G.Q. 7½d.
21 " O.G.Q.	3½d.	Obscured Sheet, 15 oz. 3½d.
21 " S.G.Q.	3½d.	" " 21 " 4½d.
26 " O.G.Q.	4½d.	Fluted, 15 oz. 6½d., 21 oz. 9d.
26 " S.G.Q.	5d.	Em'ld 15 oz. 4½d., 21 oz. 5½d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED plate in CRATES OF STOCK SIZES.

	Per ft.
Rolled plate ¼ in.	4½d.
Rough rolled ⅜ in.	5½d.
Rough rolled, ½ in.	5½d.
Figured, Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White	5½d.
Do. tinted	8d.
Rolled Sheet	5d.
White Rolled Cathedral	5d.
Tinted Do.	7½d.

Cast plate is same price as rough rolled.

"VITA" GLASS.	per ft. s. d.
Clearsheet—not exceeding 1 foot	1 0
Do. do. 2 feet	1 3
Do. over 2 feet	1 9
Polished plate—not exceeding 1 foot	1 6
Do. do. 2 feet	2 0
Cathedral—not exceeding 1 foot	1 0
Do. larger sizes	1 6
Horticultural Sheet and Cathedral "Vita" Glass. Sizes up to 24 inches by 18 inches or not exceeding 3 feet	1 0
3/16 in. Wired Georgian Design. Sizes up to 96 inches long by up to 24 inches wide	2 9

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. for the Building Industry from February 1. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	— A	— A^1	— A^2	— A^3	— B	— B^1
Craftsmen	— 1/7	— 1/6½	— 1/6	— 1/5½	— 1/5	— 1/4½
Labourers	— 1/2½	— 1/1½	— 1/1½	— 1/1	— 1/0½	— 1/0½

Aberdeen	A	Dundee	A	Hawick	A^2
Airdrie	A	Dunfermline	A	Helensburgh	A
Alexandria	A	Duncon	A	Inverness	B
Arbroath	A	East Lothian	A	Kilmarnock	A
Ayrshire	A	Edinburgh	A	Kincardineshire	A
Bathgate	A	Falkirk	A	Kinross-shire	A
Bo'ness	A	Forfarshire	A^2	Kirkcaldy	A
Broughty Ferry	A	Fort William	B	Lanarkshire	A
Checkurnanesshire	A	Galashiels	A^2	Leith	A
Coatbridge	A	Glasgow	A	Midlothian	A
Dumbartonshire	A	Greenock	A	Motherwell	A
Dumfries	A^2	Hamilton	A	Peebleshire	A^2
Dumfriesshire	A				

Perth	A
Perthshire	A^2
Peterhead	A^2
Renfrewshire	A
Rothesay	A
Roxburghshire	A^2
St. Andrews	A
Selkirkshire	A
Stirling	A
Stirlingshire, West	A
West Lothian	A
Wishaw	A

The information given in this table is copyright. The rates of wages in various towns in England and Wales are given on page 665.

THE SCOTTISH BUILDER

NEW BUILDINGS

ABERDEEN.—BUILDING.—The Plans and Town Planning Committee of the T.C. has approved plans for improvements to be carried out at Broomhill School at a cost of £19,000. The committee also approved amended plans for a proposed restaurant, bar, and house to be erected at the corner of Banner-mill-road at Links-road, Aberdeen, at a cost of about £6,000 by Mr. J. D. Allan, 134, George-street, Aberdeen.

AIRDRIE.—BUILDING.—Plans are in hand for new police-station, mortuary, houses and offices. Mr. John Stewart, architect, Albert-street, Motherwell.

ALLOA.—EXTENSIONS.—Messrs. Patons and Baldwins are proposing extensions at the Kilncraigs factory.

ARBROATH.—HOUSING.—The Department of Health has sanctioned 188 houses for the Guthrie Hill site.

ARDROSSAN.—CENTRE.—The Ayrshire E.C. has decided to erect a junior instruction centre.

AYR.—HOME.—The T.C. has decided to erect a nurses' home at Heathfield Hospital at £4,300.

BISHOPBRIGGS.—HOUSES.—The Lanarkshire C.C. is to build another 96 houses in the Bishopbriggs area.

CAMPBELTOWN.—HOUSING.—The T.C. have approved a town-planning scheme estimated ultimately to cost £160,000. The scheme includes the purchase of 22¼ acres of ground in the Dalaruan and Millknowe areas and the demolition of disused distilleries and other old property. It is intended to erect some 300 houses on the site under the 1930 and 1935 Acts.

CLARKSTON.—RECONSTRUCTION.—Plans are in hand for a scheme of reconstruction and extension to the Greenbank Parish Church of Scotland. Mr. Joseph Wilson, architect, 200 St. Vincent-street, Glasgow. Mr. Robert Gilchrist, 65, Bath-street, Glasgow, is the measurer.

DUMBARTONSHIRE.—SCHOOL.—The C.C. intend to erect a new school at a cost of approximately £6,500 at Hartfield. Mr. Joseph Weekes, architect, 18, Park-Circus, Glasgow.

DUNDEE.—BUILDINGS.—Plans and sections of the following proposed new buildings, etc., have been lodged at the office of the City Engineer: Arbroath-road, house for A. Thomson and Co., architects, Maclaren, Soutar and Salmond, 15, South Tay-street; Arklay-street, shop for Wm. Robertson, architect, Wm. M. Patrick, 26, Yeaman-shore; Craig-street and West Dock-street, office for Dundee Eastern Co-operative Society, Ltd., architects, Allan and Friskin, 26, Castle-street; Harestane-road and Baldovan-road, bungalow for Downie and Dye, architect, Jas. Clunie, 5, Kirkton-road; 15, Hill-street, Broughty Ferry, alterations for Alex. Caird, architect, W.M. Wilson, 51, Meadowside; St. Vincent-street, Broughty Ferry, additions for Jas. Simpson (Broughty), Ltd., architect, T. Lindsay Gray, 2, India-buildings; strips of Craigie-road, house and garage for the Hillside Property Investment Co., Ltd., architect, W. M. Wilson, 51, Meadowside.

DUNFERMLINE.—HOUSES.—The T.C. is to proceed with the erection of 150 houses.

EDINBURGH.—EXTENSIONS.—The Scottish Co-operative Wholesale Society is to carry out a scheme of extensions and alterations of their central warehouse at £7,025.

FORRES.—HOUSES.—The T.C. has decided to erect 4 blocks of four 4-apartment flats; 5 blocks of four 3-apartment flats; and 3 blocks of two 3-apartment houses at the East-end site. The architect for the scheme is Mr. A. J. Morrison, Elgin.

FORTHVALE.—ADDITIONS.—Stirling C.C. Plans Committee have passed plans for a scheme of alterations and additions to Forthvale Works for the Rubber Co., of Scotland,

Ltd. The architects are Messrs. Edmiston and Brown, and Co., Ltd., 45, Midwharf-street, Glasgow.

GLASGOW.—Housing.—Offers for the work in connection with the Corporation's proposed housing scheme at Househillwood, to the south of Barrhead-road, Pollokshaws, and involving an expenditure of £278,364, were recommended for acceptance by the Corporation at a meeting of the Housing Committee. The scheme will comprise 836 houses of three, four, and five apartments, and seven shops. It was agreed to recommend that the excavation work, etc., be done by Messrs. Loudon and Inglis, Coatbridge, at £105,100, and among the other offers recommended for acceptance were the following: Carpentry work, etc., M'Dougall Construction Co. (Ltd.), Glasgow, £82,756; plumber work, Hugh Twaddle and Son (Ltd.), £41,439; slater work, A. C. Whyte and Co. (Ltd.), Glasgow, £21,770; and plaster work, Messrs. William Walker and Son (Glasgow) (Ltd.), £13,443. Offers, amounting to £21,685 for the construction of 78 houses at Garngad Extension No. 3 scheme, were also recommended for acceptance. The Corporation have also acquired on the Garscadden estate an area of 67½ acres for which the Town Clerk reported the adjusted price was £17,500, and this area will provide for the building of 500 houses. The Housing Committee also approved a layout plan for the proposed erection of 159 houses of three and four apartments in three-story tenements in the Dalmarnock-road clearance area.

HUNTLY. — Houses. — The T.C. has approved of the erection of 32 new houses on the site between Christie-park and Park-street North.

INVERURIE.—Hospital. — The Public Health Committee of the Aberdeen C.C. has decided to recommend the provision of a new infectious diseases hospital in the Inverurie area.

IRVINE.—Housing.—The Dean of Guild Court has passed the following plans for 24 houses under the 1935 Act for relief of overcrowding and 32 houses under the 1930 Act for slum clearance, which are to be built by the T.C.

JEDBURGH.—Houses.—The T.C. has decided to apply to the Department of Health for Scotland for approval of the erection of 135 houses.

KIRKCALDY.—Houses.—The T.C. has decided to erect 276 houses on the King-street site. The architects for the scheme are Messrs. Deas and Bertram, High-street, Kirkcaldy.

KIRRIEMUIR.—Houses.—The Corporation intend to erect a scheme of 44 houses.

LARGS.—Improvements.—Plans for the frontage of a new railway station for Largs have been provisionally approved by the Dean of Guild Court. The scheme, which is estimated to cost £8,900, involves the erection of a number of shops and café premises facing the main street.

LOSSIEMOUTH.—Reconstruction. — The directors of the Lossiemouth Harbour Co. have adopted a scheme for the reconstruction of the north breakwater. The cost is estimated at £13,500.

MAYBOLE.—Extensions.—Plans are to be prepared for a scheme of reconstruction and extension proposed to be carried out at Cairns school. Mr. William Reid, architect, County-buildings, Ayr.

MONTROSE.—Building.—The Board of Management of the Montrose Royal Asylum have agreed to proceed with the erection of a building for pre-senile patients at £25,000.

NEW ELGIN.—Houses.—The Moray C.C. approved of a proposal to erect 24 houses at New Elgin to overcome the overcrowding at New Elgin, Moycroft, and Ashgrove.

PERTH.—Additions.—The T.C. has decided to carry out a scheme of alterations and additions to the municipal buildings.

STRANRAER.—Houses.—The T.C. are to erect 154 houses on a site at Dick's Hill, at £61,300.

NEW CINEMAS

BOSTON.—Messrs. Odeon Theatres, Ltd., Cornhill House, Bennett's-hill, Birmingham, propose a cinema on South-square. The architect is Mr. H. W. Weedon, A.R.I.B.A., Phœnix-chambers, 84, Colmore-row, Birmingham.

CHORLEY.—The Odeon Theatres, Ltd., Cornhill House, Bennett's Hill, Birmingham, have acquired a site in Union-street and High-street, for the erection of a cinema and shops. The architect is Mr. H. W. Weedon, A.R.I.B.A., Phœnix-chambers, 84, Colmore-row, Birmingham.

CHORLEY.—Mr. Arthur Hall, of Blackpool, has acquired the Empire and Hippodrome Cinemas, and the work of reconstruction is to be commenced immediately.

EDGWARE-ROAD.—Messrs. R. Sokoloff and Harry Pearl have acquired a site for the erection of a cinema, to be known as the "Rex." The architect is Mr. George Coles, F.R.I.B.A., 40, Craven-street, W.C.2.

GLASGOW.—Plans are being prepared by Mr. Alister G. MacDonald, A.R.I.B.A., 14, John-street, Adelphi, W.C.2, for a scheme to modernise the La Scala Cinema, Sauchiehall-street, Glasgow.

HARROGATE.—Associated British Cinemas, Ltd., 30, Golden-square, W.C.1, are to erect a cinema at the junction of Cambridge-road and Oxford-street. The architect is Mr. H. Linley Bown, L.R.I.B.A., 8, Victoria-avenue, Harrogate.

HARROW-ON-THE-HILL.—Plans have been prepared by Mr. J. Owen Bond, F.R.I.B.A., 26, Tombland, Norwich, for the erection of a cinema, car park, etc., in Station-road. No contracts have been let.

HASTINGS.—The Union Cinema Co., Ltd., 167, Wardour-street, W.1, have acquired a site in Cambridge-road for the erection of a cinema. Plans are by Messrs. Frank Verity and S. Beverley, FF.R.I.B.A., 7, Sackville-street, W.1. No contracts let.

HIGH WYCOMBE.—Messrs. A. E. Abrahams, Ltd., 25, Shaftesbury-avenue, W.1, have acquired a site for the erection of a cinema. Plans are in the course of preparation.

KETTERING.—The Regal, Kettering, Ltd., 60, National House, Wardour-street, London, W.1, propose the erection of a cinema in High-street, Kettering. Plans have been prepared by Mr. George Coles, F.R.I.B.A., 40, Craven-street, Strand, W.C.2.

KILBURN. — Gaumont - British Super Cinemas, Film House, Wardour-street, W.1, are to erect a cinema, to be known as the "Troxy," at the corner of Kilburn High-road and Willesden-lane. There will be accommodation for 4,020 people. The architect is Mr. George Coles, F.R.I.B.A., 40, Craven-street, W.C.2.

LANCHESTER.—A contract has been placed with Mr. William Dunn, "Foxcote," Ferry-hill, for the erection of a cinema at Langley Park for the Zymo Cinema Co. Mr. Douglas Crawford, Market-chambers, Newgate-street, Bishop Auckland, is the architect.

LEEDS.—A news theatre to seat 400 is to be erected in Boar-lane, for the Times Theatres, Ltd., 3, Stanley-street, Liverpool. The architect is Mr. Peter Cummings, A.R.I.B.A., 31, King-street West, Manchester, 3.

MANCHESTER.—T.C. approved plans for alterations to premises and conversion of portion of premises into cinema at Oxford-street and Hall-street for British News Theatres, Ltd., 174, Buckingham Palace-road, S.W.

OLD KENT-ROAD. — Associated British Cinemas, Ltd., 30, Golden-square, W.1, have acquired a site on the Gervase-street corner for the erection of a cinema to seat nearly 4,000 people. The architect is Mr. W. R. Glen, F.R.I.A.S., and the contractors are Messrs. Griggs and Son, Ltd., 100, Victoria-street, S.W.1.

PORTSMOUTH. — Associated British Cinemas, Ltd., 30, Golden-square, W.1, have acquired a site in Commercial-road for the erection of a cinema. The company's architect is Mr. W. R. Glen, F.R.I.A.S.

SALFORD.—Mr. George E. Tonge, F.R.I.B.A., National Bank-chambers, Lord-street, Southport, has prepared plans for the erection of a cinema in Broad-street, Pendleton. Mr. G. H. Munroe, of Pendleton, is the promoter of the scheme.

SOUTHAMPTON.—The Associated News Theatres, Ltd., 147, Wardour-street, W.1, have accepted the tender of Messrs. Bovis, Ltd., 35, High-street, W.1, for their news-reel cinema at Above Bar. The plans have been prepared by Mr. Cecil Masey, F.R.I.B.A., 15, Caroline-street, W.C.1.

STOKE-ON-TRENT.—Messrs. Wood and Goldstraw, A.R.I.B.A., Town Hall, Tunstall, are the architects for a cinema to be erected in Leek-road, Abbey Hulton. Plans have been approved by the Corporation.

STRAND.—The contract for the reconstruction and modernisation of the News-Reel Cinema, Agar-street, W.C.2, has been placed with Messrs. Bovis, Ltd., 35, High-street, W.1. The architect is Mr. Cecil Masey, F.R.I.B.A., 15, Caroline-street, W.C.1.

STRETFORD.—Union Cinema Co. propose the erection of a cinema on Chester-road. Plans are by Messrs. Frank Verity and S. Beverley, FF.R.I.B.A., 7, Sackville-street, W.1. No contracts let.

WASHINGTON, CO. DURHAM. — The Globe Cinema, owned by Mr. G. Hill, is to be enlarged by the addition of a new circle. Mr. E. M. Lawson, A.R.I.B.A., Barras-buildings, Barras Bridge, Newcastle-on-Tyne, is the architect.

WATFORD.—Negotiations are proceeding in connection with the proposed building of a cinema on the St. Alban's-road. The architect is Mr. J. Owen Bond, F.R.I.B.A., 26, Tombland, Norwich. No contracts have been placed.

WEDNESFIELD.—The Perry Hall estate is to be developed for residential purposes and the preliminary layout shows about 2,000 houses, a shopping centre and a cinema. Plans have been prepared for Mr. E. A. Coleman, F.S.I., 39, Newhall-street, Birmingham, by Messrs. Skelcher, Machin and Watson, 156, Edmund-street, Birmingham. No contracts have been let.

WELLINGTON (SALOP).—Mr. E. S. Roberts, L.R.I.B.A., Lombard House, Great Charles-street, Birmingham, is preparing plans for the erection of a cinema at the Craven Arms for Craven Cinemas, Ltd.

WEST HARTLEPOOL.—The contract for the erection of a cinema in Hart-road for Councillor T. Pailor has been placed with Messrs. Wm. Pearson and Son, Ltd. The architects are Messrs. Percy L. Browne and Sons, Pearl-buildings, Northumberland-street, Newcastle-on-Tyne.

WEYMOUTH.—A London syndicate propose the erection of a cinema to seat 1,500, a conference hall, flats and a hotel at Lodmoor, Weymouth. Mr. E. G. Trowbridge, of London, and Mr. L. Stewart-Smith, of Weymouth, are associated architects. The first part of the scheme will cost £70,000.

WHITBY.—A contract has been placed with Mr. A. N. Palframan, Upgang-lane, for the erection of a cinema in Upgang-lane to accommodate 900 people. Mr. J. R. Wallace, 20, Northumberland-square, North Shields, is the architect.

WIGAN.—Union Cinema Co., Ltd., have acquired a site in Station-road for the erection of a "Ritz" cinema. Plans are by Mr. R. Cromie, F.R.I.B.A., 6, Cavendish-square, W.1.

WOKING.—Messrs. Bernstein Theatres, Ltd., 36, Golden-square, W.1, are to erect a Granada cinema. The architect is Mr. James Morrison, A.R.I.B.A., 107, Great Russell-street, W.1, and Messrs. Bovis, Ltd., 35, High-street, W.1, are the contractors.

WOLVERHAMPTON. — The Corporation have approved plans for a cinema in Garrick-street, for Associated British Cinemas, Ltd., 30, Golden-square, W.1. Mr. W. R. Glen, F.R.I.A.S., is staff architect.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	8	0
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	3
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

		s.	d.
Portland cement concrete in foundations 1 to 6	per yard cube	24	0
Add if in underpinning in short lengths	" "	5	0
Add if in floors 6 in. thick	" "	2	0
Add if in beams	" "	2	6
Add if aggregate 1 : 2 : 4	" "	8	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	1	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	26	0	0
Add if in stocks	"	6	0	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	1	5	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

		s.	d.
Neat flat struck or weathered joint	"	0	0	3

ARCHES.

		s.	d.
Extra only to the price of ordinary brickwork :—			
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	0	9
Rubbed and gauged jointed in putty camber or segmental	"	0	5	9

SUNDRIES.

		s.	d.
Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	0	11
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks		4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarter-inch vertical damp course	" "	9	6
Three-quarter-inch on flats in two thicknesses	" "	6	0
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	0

MASON.

		s.	d.
York stone templates fixed	per foot cube	12	9
York stone sills fixed	" "	22	0
Bath stone and all labour fixed	" "	10	6
Beer stone and all labour fixed	" "	15	0
Portland stone fixed	" "	15	6
Chilmark stone fixed complete	" "	13	6

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap. including nails	per square	70	0
Do. 20 in. × 10 in. Do. Do.	"	71	6
Do. 24 in. × 12 in. Do. Do.	"	73	6

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	3	6
Do. joists	" "	4	0
Do. roofs, floors and partitions	" "	4	6
Do. trusses	" "	6	9

		¾"	1"	1½"	2"
Deal rough close boarding	per sq.	30/-	35/-	43/-	70/-

		s.	d.
Flat centering for concrete floor, including struts or hangers		50	0
Do. to beams	per ft. sup.	0	5
Centre for arches	"	1	6
Gutter boards and bearers	"	1	0

FLOORING.		¾"	1"	1¼"	1½"
Deal-edges shot	per sq.	—	38/-	45/-	52/-
Do. tongued and grooved	"	—	43/-	50/-	58/-
Do. matchings	"	40/-	45/-	—	—
Moulded skirtings, including backings and grounds	per ft. sup.	1/4	1/7	1/9	2/3

SASHES AND FRAMES.		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	9
Two Do. Do. Do.	" "	2	0
Add for fitting and fixing		0	2
Deal cased frames with 1 in. inner and outer linings, 1¼ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights, average size		3	3

DOORS.		1¼"	1¾"	2"
Two-panel square framed	per ft. sup.	2/1	2/3	2/5
Four-panel Do.	"	2/4	2/6	2/9
Two-panel moulded both sides	"	2/6	2/9	2/11
Four-panel Do. Do.	"	2/9	2/11	3/2

CARPENTER AND JOINER—continued.

FRAMES.		s.	d.
Deal wrot moulded and rebated	per foot cube	12	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers	"	1/2	1/4	1/7
Add if cross-tongued	"	2d.	2d.	2d.

STAIRCASES.	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/0	2/3	2/8	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. x 1¼ in.	per ft. run	0	9
Mahogany handrail, average 3 in. x 3 in.	" "	5	6
Add if ramped	" "	11	0
Add if wreathed	" "	22	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).			
6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	15	0
Plain compound girders	"	18	0
Do. stanchions	"	20	9
In roofwork	"	26	6

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/-	1/1	1/3	1/6
Ogee Do. Do.	"	1/2	1/3	1/9	2/3
Rain-water pipes with ears	"	1/3	1/10	—	—
Extra for shoes and bends	each	2/9	3/11	—	—
Do. stopped ends	"	1/1	1/4	1/9	2/6
Do. nozzles for inlets	"	2/2	2/7	3/7	4/-

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	35	6
Do. do. flats	"	34	6
Extra labour and solder in coated cesspools	each	6	0
Welt joint	per ft. run	0	4
Soldered seam	" "	1	6
Copper nailing	" "	0	3

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	10½	1/2	1/9	2/5	3/-	—
Do. service	"	1/3	1/8	2/2	3/2	—	—
Do. soil	"	—	—	—	—	—	6/-
Bends in lead pipe	each	—	—	—	—	2/3	5/6
Soldered stop ends	"	0/7	0/11	1/3	2/-	2/6	—
Red lead joints	"	0/9	0/10	1/1	1/7	1/10	3/6
Wiped soldered joints	"	2/-	2/6	2/9	3/5	4/3	6/-
Lead traps and cleaning screws	"	—	—	—	10/-	13/-	—
Bib cocks and joints	"	6/-	9/-	13/-	—	—	—
Stop cocks and joints	"	10/6	12/6	17/6	50/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	0
Do. Do. Sirapite	" "	2	3
Do. Do. Keen's	" "	3	0
Add saw lathing	"	1	4
Add metal lathing	"	2	4
(Not including hangers or runners, etc., for suspended ceilings.)			
Portland cement screed	" "	1	7
Do. plain face	" "	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	4	6

GLAZIER.

		s.	d.
21-oz. sheet plain	per foot sup.	0	6½
26-oz. Do.	" "	0	7½
Obscured sheet	" "	0	8
¼-in. rolled plate	" "	0	9
¼-in. rough rolled or cast plate	" "	0	10
¼-in. wired cast plate	" "	1	1

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	7½
Knotting and priming	" "	0	7
Plain painting, 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	" "	1	2
Preparing for and hanging paper	per piece 2/- to		4/-

These prices apply *to new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Act, and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TRADE NEWS

A Concrete Mixer.

We are informed that the "Winget" 5/3½ concrete mixer illustrated in Messrs. T. C. Jones and Co., Ltd.'s advertisement in our last issue was inadvertently wrongly priced. This price should have been £38 15s.

Electric Cables on a Liner.

Messrs. Callender's Cable and Construction Co., Ltd., supplied the whole of the electric cables employed—in all, approximately 112 miles—on the *Stirling Castle*, the new 25,500-ton motor-ship which recently made her maiden voyage to the Cape.

Cooking Apparatus and Steam Disinfectors.

Messrs. Aveling-Barford, Ltd., issue from Grantham a small but handy loose-leaf pocket-book to draw attention to their cooking apparatus and steam disinfectors for hotels, hospitals and institutions. The firm make a speciality of getting out detailed schemes and lay-outs.

The Ideal Home Exhibition.

"Durus" cast stone, supplied by Messrs. D. G. Somerville and Co., Ltd., has been selected for stone dressings for the exhibition flats to be erected at the Ideal Home Exhibition, to the designs of Messrs. Marshall and Tweedy, FF.R.I.B.A., Mr. W. E. Masters, F.R.I.B.A., Messrs. Unsworth, Goulder and Bostock, and Mr. Joseph Hill, F.R.I.B.A.

Fencing for all Purposes.

Reliant Fencing Co., Ltd., have recently issued a catalogue, "Reliant Fencing for all Purposes," which should interest architects, surveyors and estate developers, containing, as it does, illustrations and prices of a wide variety of timber, fencing, gates, link fencing, etc. A copy is obtainable from Reliant Works, Hildenborough Station, near Tonbridge, Kent.

Brickwork Chimneys.

Messrs. P. C. Richardson and Co. (Middlesbrough), Limited, 74, Borough-road, Middlesbrough, have secured the following contracts: a brick chimney, 150 ft. high and 6 ft. 6 in. internal diameter, to be erected at Middlesbrough for Prices, Tailors, Ltd., Leeds (Mr. P. S. B. Nicolle, staff architect); a brick chimney, 150 ft. high and 6 ft. 6 in. internal diameter, to be erected at Knighton, Salop, for Messrs. Cadbury Brothers, Ltd.

Strong-room on "Queen Mary."

Messrs. John Tann, Ltd., who are safe and strong-room engineers to the Bank of England and many of the leading banks throughout the world, have installed one of their anti-blowpipe drill-proof safes in the offices of the Midland Bank on board the *s.s. Queen Mary*. The safe weighs nearly three tons, stands over 6 ft. high, and has special adaptations for shipboard use. Standard bank fittings are incorporated, and the door is controlled by two unpickable patent keylocks and one four-wheel keyless bankers' combination lock (capable of 100,000,000 changes).

Road, Quarry, and Contractors' Plant.

A well-produced catalogue issued by Messrs. Goodwin, Barsby and Co., Ltd., draws attention to the wide variety of quarry, road and contractors' plant manufactured by this firm. A long list of public bodies using "Good-Win" plant testifies to the reliance placed upon this plant, which includes stonebreaking, washing and screening, elevating and concrete-mixing plant of high efficiency and incorporating recent improvements. A copy is obtainable from St. Margaret's Ironworks, Leicester.

The "Queen Mary" Floodlights.

One of the most spectacular features of the "Queen Mary" will be the floodlighting of the three giant funnels and upper structures by "B.T.-H." projectors and "Mazda" lamps. The British Thomson-Houston Co., Ltd., manufacturers of this equipment, have also supplied hundreds of specially designed electric light fittings for the public rooms.

Red Cedar Shingles.

Two pamphlets illustrative of the uses as roofings and joinery of western red cedar have been issued by the British Columbia Timber Commissioner, from 1-3, Regent-street, S.W.1. Both publications contain a number of interesting illustrations of what can be done with this delightful timber; for shingles and weatherboarding externally, and for panelling, ecclesiastical woodwork and general joinery internally, western red cedar has many applications—not least, durability, lightness and ease of working.

B.S.S. for Bituminous Road Mixtures.

The British Standards Institution has recently published "British Standard Methods for the Sampling and Examination of Bituminous Road Mixtures." These methods have been drawn up to provide a standard procedure for the examination of bituminous mixtures (asphalt and tarmacdam) used for road surfacing. They are appropriate for use in connection with the existing British Standard Specifications for hot process, rolled and mastic asphalt, for asphalt macadam, and for asphalt road surfacing by the cold process. Copies (No. 598-1936) may be obtained from the Publications Department, British Standards Institution, 28, Victoria-street, London, S.W.1, price 3s. 8d., post free.

Flooring Tiles.

Carraratile, Ltd., describe in a new booklet the features of their "Carraratile" flooring. Introduced in the booklet are two novelties to the architectural world: (1) the "C" ornamental tile, which is a registered design and is a unit which can be laid with simplicity to produce geometric flooring patterns of almost infinite variation; and (2) the "G" quartz non-slip tile, which, although it does not contain any artificial non-slip aggregates, has a non-slip surface which is at the same time smooth and dustless. This latter tile was specified by the London Passenger Transport Board for their new Monument Underground Station. A copy of the booklet will be sent on request to British Industries House, Oxford-street, W.1.

Determination of Stresses in Structures.

Great interest, we learn, is now exhibited by those who have to deal with the determination of stresses in structures in photoelastic methods for measuring and exhibiting such stresses. Engineers will very probably find of value a booklet issued to describe the Microid Polarised Light and Photoelasticity Apparatus, which has been developed specifically for use in demonstrating such stresses. A particular arrangement of this piece of apparatus shows it conveniently mounted on the optical bench of a special lantern. A copy of the pamphlet is obtainable, on mentioning this journal, from Messrs. Griffin and Tatlock, Ltd., Kemble-street, Kingsway, W.C.2.

COMPANY RESULTS

Indestructible Paint Co., Ltd.

The annual general meeting of this company will be held to-day (Friday), when a final dividend of 13½ per cent., making 20 per cent. for the year, will be recommended. The turnover and net profit (£45,661) represent records in the history of the company.

Peabody Donation Fund.

The surplus income for the year from rents and interest in the transactions and work of this fund amount to £59,539, this result being 2.06 per cent. on the capital fund as compared with 2.12 per cent. the previous year. The capital expenditure on land and buildings to the end of the year was £2,914,819. Work is now proceeding on the development by tenements of sites at St. John's-hill, Clapham Junction, and Dalgarno-gardens, North Kensington—totalling 469 tenements.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government Departments*.

Aberdeen.—48 four-apartment houses at The Tanfield housing site, for the Corporation. Mr. Alexander Gardner, architect, Housing Director's Office, Aberdeen:—

Excavation, brick and mason—
*J. Sherrar & Sons, Ltd., Aberdeen £8,561 18 0
Joinery, carpentry and ironmongery—
*R. & J. Reid, Ltd., Aberdeen ... 3,948 13 7
Plumber work and sanitary fixtures, etc.—
*A. MacRobb, Ltd., Aberdeen ... 2,244 12 8
Slater (Port Dinorvic slates)—
*Charles Stewart & Son, Aberdeen 789 8 1
Lathing and plaster—
*W. Marson & Son, Aberdeen ... 2,315 13 4
Painter—
*R. Milne, Aberdeen 697 16 4
Electrical fittings and installation, etc.—
*Stroud & Weir, Aberdeen 261 9 6
Railings, gates and allied works—
*W. Bain & Co., Ltd., Coatbridge 159 11 4

Bacup.—16 houses in Rochdale-road, Britannia, for the T.C. Borough Engineer:—

†Hy. Fricketi & Sons, Ltd., Turton Hollow, Crawshawbooth.

Barnes.—Four flats in Limes-avenue, for the T.C.:—

Kirk & Kirk, Ltd., Putney £3,280 0 0
Haymills, Ltd., Wembley 3,073 0 0
Wates (Streatham), Ltd. 2,995 0 0
Turner & Payne, Ltd., Finchley 2,893 10 0
Thorogood Bros. & Sons, Surbiton 2,886 10 0
J. A. Dumayne & Co., Walworth 2,833 0 0
W. & M. Negus, Ltd., Southwark 2,827 0 0
Alan Hopwood, Ltd., Cricklewood 2,800 0 3
*Wm. Lowe & Son, Ltd., Barnes 2,797 0 0

Barnsley.—Reconstruction of shop premises in Eldon-street, for Messrs. J. Fox & Son. Messrs. Dyson, Cawthorne & Coles, architects:—

*C. D. Potter & Sons.

Barnsley.—House at Midhope Reservoir, near Langsett, for the T.C. Mr. Harold Taylor, Borough Engineer and Surveyor:—

*David Brearley & Sons, Deepcar, near Sheffield £699 10

Batley.—16 houses at the Purlwell housing estate, for the Corporation:—

Builder's work—*Herman Booth & Son (12 houses).
*Haywood & Peirson (6 houses).
Joiner—*H. Taylor (16 houses).
Plumber—*C. Crossley (16 houses).
Tiler—*G. Rogerson, Ltd. (16 houses).
Plasterer—*J. Greenwood (16 houses).
Painter—*W. Murday (16 houses).
Electrician—*W. Smith (16 houses).

Birkenhead.—24 houses in blocks of four on the Orred estate, Borough-road, for the T.C.:—

*Lloyd & Cross, Ltd., Birkenhead ... £10,467

Birkenhead.—Additions to the male and female mental wards at institution, Church-road, for the T.C. Mr. B. Robinson, Borough Engineer. Quantities by the Borough Engineer:—

*E. B. J. Gould, Ltd., Ellesmere Port £5,159 10
(Subject to M.H. approval.)

Birmingham.—Demolition of Metropole building and an extension to trading premises in High-street, for the Co-operative Wholesale Society, Ltd. Mr. W. A. Johnson, F.R.I.B.A., chief architect:—

*Birmingham Co-operative Society Works Department.

Blackpool.—Works, for the Corporation:—

Palisade wall to replace the back fence situate on the south side of Condor-grove—*R. Hogarth.
Works in connection with the Revoe branch library and reading-room — Shelving, counter, etc.—*A. Carr. Painting, etc.—*C. Crabtree.
Glazed galvanised cast-iron pavement lights at the Waterloo Slade conveniences—*Luxfer, Ltd., London.
Sub-station in Cameron-avenue, near Layton bowling green—*Herbert Joyce & Sons, Ltd.
Installation of heating apparatus in the mess-room, paying-in office and painting shop at Rigby-road—*C. Seward & Co., Ltd., Preston.
Provision of fire-resisting floors at the Claremont domestic science and manual block—*Kleine & Co., Ltd., London.
Erection of beach chalets—*Atherton Bros. (Blackpool), Ltd.

Blackpool.—Premises adjoining Central Stores, café and offices in Sheppard-street, for the Blackpool Co-operative Society, Ltd. Plans in Architects' Dept., Co-operative Wholesale Society, Ltd., Balloon-street, Manchester :—

Foundations and basement—
*H. Joyce & Sons, Ltd., St. Annes-on-Sea.

Brentwood.—New court house, police station and buildings at La Plata, for the Essex Standing Joint Committee :—

*Messrs. Deaves, of Bures £22,994

Brighton.—Administrative buildings in connection with the proposed bathing pool at Black Rock, for the C.B. Borough Engineer and Surveyor :—

*Jas. Barnes & Sons, 100, North-street, Brighton £18,087

Broughty Ferry.—New buildings, for the Salvation Army. Mr. D. W. Patrick, architect, 26, Yeoman Shore, Dundee :—

*J. B. Archer, Church-street, Broughty Ferry.

Burnside.—Shops and offices in Dukes-road and Brownside-road :—

*John MacDonald (Contractors), Ltd., 12, Old Dalmarnock-road, Bridgeton, Glasgow.

Buxton.—Sun lounge and extensions in Pavilion-gardens, for the T.C. Mr. F. Langley, Borough Surveyor :—

*J. Robinson & Sons, Buxton £2,200

Cannock.—Sub-station at Walsall-road, for the U.D.C. :—

*Direct Labour £240

Cardiff.—Piggeries at Ely Lodge, Cowbridge-road, for the T.C. Mr. G. H. Whitaker, City Architect :—

*J. E. Evans & Co., West Luton-place, Cardiff £932 3 1

Cardiff.—Library and scullery at Canton school, for the T.C. Mr. G. H. Whitaker, Education Architect :—

*Knox & Wells, Bangor-street, Cardiff... £698

Carlisle.—Four classrooms, gymnasium, bath-rooms, glass-covered veranda to the Carlisle and County High School for Girls, for the Board of Governors. Mr P. Dalton, A.R.I.B.A., architect, 18, Fisher-street :—

*J. Millar & Sons, Carlisle.
(Estimated cost £10,000.)

Chesterfield.—47 non-parlour type houses at Tupton, near Chesterfield, for the R.D.C. Messrs. Houlton & Kington, architects, Market-place :—

*R. M. Tickle, Nottingham £14,805

Chryston.—Houses on the Chryston-road housing site, for the Lanarkshire C.C. Mr. Peter C. Smith, Lanarkshire County Housing Architect, Hamilton :—

Excavation, brick and mason—
*R. Marshall & Sons, Bishopbriggs £1,247 3 10
Joinery, carpentry and ironmongery—
*D. Wilkinson & Sons, Chryston 825 8 9½
Plumber work and sanitary engineering—
*Duncan Johnstone, Strathavon... 338 0 0
Slater—
*J. Wallace & Son, Chryston 243 7 9
Plaster and lathing—
*Williamson Bros., Kirkintilloch 113 0 3

Clarkston.—48 houses at Williamswood Park. Mr. Norman McFayden, architect, 35, Julia-avenue, Bearsden :—

Excavation, brick and mason—*J. Lawrence & Co., Ltd., Glasgow.
Plumber work and sanitary engineering, etc.—*J. Y. Symington & Co., Govanhill.
Plaster and lathing—*A. McKellar, Glasgow.
Slater—*A. C. Whyte & Co., Ltd., Carmyle.
Joinery, carpentry and ironmongery—*Lawrence Building Co., Ltd., Glasgow.
Painter—*J. Chisholm & Son, Govan.
Electrical lighting installation—*K. McAlpine & Co., Govanhill.
Ranges and grates, etc.—*P. & R. Fleming, Glasgow.

Cromer.—Refreshment pavilion in "The Warren Park," for the U.D.C. Mr. G. E. Mitchell, surveyor :—

J. W. Dix, Cromer £899
Childs & Spinks, Cromer 842
Bullen & Son, Ltd. 818
J. Holmes & Sons, Globe-lane, Norwich 817
*Surveyor's estimate 600

Darton.—41 houses and four bungalows at Gawber, for the U.D.C. :—

R. K. Poskett, Beal, near Knottingley 13,974 10
Roads and sewers—
*S. Taylor, Barnsley 2,246 0

Devizes.—Construction of pump house and mass concrete reservoir, for the R.D.C. Messrs. Parker, Pearson & Ross Hooper, engineers, Dallas-chambers, Chippenham :—

*John Howard & Co., Ltd., Lloyds Bank-chambers, Longfleet, Poole £26,722 13 4

Dinas Powis.—Building at Bryn-y-Don school, for Cardiff and Barry Joint Management Committee. Mr. G. H. Whitaker, M.Inst.C.E., architect, City Hall, Cardiff :—

*Davies & Davies, 54, Penhurad-street, Cardiff £1,759 5 1

Dinnington.—Extensions to the Mining and Technical Institute, for the West Riding E.C. Mr. H. Wormald, architect, County Hall, Wakefield :—

*A. Gregory & Sons (Glassbougton), Ltd.

Doncaster.—Rebuilding of the "Black Bull" hotel, for Messrs. Whitworth, Son & Nephew, Ltd. :—

*T. Jenkinson & Sons (Doncaster), Ltd.

Droylsden.—Branch library in Manchester-road, for the Lancashire E.C. Mr. Stephen Wilkinson, F.R.I.B.A., County Architect, County Offices, Preston :—

*William Chappell & Sons, Ltd., Swinton, Lancs £7,789 4 10

Dundee.—New drill hall, for Territorial Army Association. Mr. Robert Gibson, architect :—

Contractors—*Tulloch & Strachan.
Reinforced concrete engineers—*Trussed Concrete Steel Co., Ltd., London.

Dunfermline.—New high school, for the Fife C.C. :—

Mason work—
*C. Stewart & Sons, Ltd., Dunfermline £13,043
Reinforced concrete—
*C. Stewart & Sons, Ltd., Dunfermline 3,444
Steel—
*Redpath, Brown and Co., Ltd., Edinburgh 1,384
Joiner—
*John Reid & Sons, Crossgates 7,788
Steel windows—
*Hope & Sons, Ltd., Birmingham ... 3,827
Slater—
*P. Kelly & Sons, Ltd., Dunfermline 1,765
Roof asphalt—
*Wm. Briggs & Sons, Dundee 440
Plumber—
*A. Thomson & Co., Dunfermline 2,897
Plaster—
*A. Galloway, Dunfermline 4,102
Tile and terrazzo—
*Allan & Sons, Ltd., Edinburgh 1,029
Glazier—
*James Thow, Ayr 648
Heating—
*D. Smith & Co., Glasgow 3,793
Electric lighting—
*Moncrieff Bros., Ltd., Leven 1,061
Iron railings and gates—
*Wm. Gratrix & Sons, Ltd., Walkden 520
Painter—
*A. T. Rolland, Dunfermline 948

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Falkirk.—Warehouse and shops in reinforced concrete, for Mr. A. Young. Messrs. James Strang & Wilson, A.R.I.B.A., architects :—

Contractors—*J. J. & P. MacLachlan, Ltd., Larbert.
Reinforced concrete engineers—*Trussed Concrete Steel Co., Ltd., London.

Fareham.—Additional electricity stores and sheds at back of Westbury Manor, for the U.D.C. :—

John Croad £406 0
G. Riches 397 10
E. A. Rowell 336 0
A. H. Chance 267 0
*W. J. Chance 262 0

Gateshead.—Extension of quay by 220 ft., for Tyne-Tees Shipping Co., Ltd., 25, King-street, Newcastle-on-Tyne :—

*Brims & Co., Ltd., Pandon-buildings, City-road, Newcastle-on-Tyne.
(Cost about £12,000.)

Glasgow.—Extension of the garage in Hope-street of Messrs. Patersons, Ltd. Messrs. James Aitchieson & Son, architects, 170, Hope-street, Glasgow :—

Building and mason and cement—*R. G. & R. Thomson, Bridgeton.
Steel construction — *Redpath, Brown & Co., Ltd., Glasgow.

Glasgow.—New hotel on the site of the Old Annifield Halls. Messrs. C. McNair & Elder, architects, 272, St. Vincent-street. Messrs. Gladstone, Brown, measurers, 102, Bath-street :—

Excavation, brick and mason—*A. Mitchell & Son, Ltd., Cathcart.
Joinery, carpentry and ironmongery—*Lawson & Co. (Govan), Ltd., Govan.
Plumber work, sanitary engineering and gas fitting—*W. Millar, Glasgow.
Glazier—*J. Baird, Ltd., Glasgow.
Plaster work and lathing, etc.—*Holmes & Jackson, Glasgow.
Roughcasting and concrete—*A. C. Whyte & Co., Ltd., Carmyle.

Glasgow.—Seven-storied extension, including basement, to the Washington Flour Mills. Mr. Robert Evan, architect, 39, Hope-street, Greenock. Mr. J. W. Menzies, measurer, West Campbell-street, Glasgow :—

Steel construction—*P. & W. McLellan, Glasgow.
Excavation, brick and mason — *Campbell Bros., Glasgow.
Joinery, carpentry and ironmongery—*Lawson & Co. (Govan), Ltd., Govan.

Glenalmond.—New children's block at the sanatorium, for the Kinross Sanatorium Board :—

Brick—
*H. Suttie, Auchtermuchty £2,669 13 11
Joiner—
*D. Dalrymple, Ladybank 769 1 7
Roof tiles—
*J. Robertson & Sons, Dunfermline 336 0 9
Plumber—
*Whyte & Sons, Leslie 385 5 0
Plaster work— ...
*Wm. Stewart & Sons, Crossgates 326 3 7
Glazier—
*P. T. M'Leod, Ltd., Perth 47 17 7
Tile and terrazzo—
*Toffolo, Jackson & Co., Glasgow 225 10 8
Heating—
*Underhill Heating Engineers, Ltd., Edinburgh 477 6 0
Electric light and painting—
*Miller & Stables, Dunfermline, and *D. Duncan, Kinross 147 17 4

Goole.—Alterations and additions at Bartholomew Hospital, for the Trustees. Messrs. Kitson, Parish, Ledgard & Pyman, architects, Leeds :—

*Wm. Birch & Sons, Ltd., York.

Gunness.—Police house, for the Lindsey C.C. Mr. Philip W. Birkett, A.R.I.B.A., County Architect, County Offices, Lincoln :—

F. J. Brown, Scunthorpe £842 16
A. Ellis & Son, West Butterwick ... 835 0
W. C. Eyre, Ashby, Scunthorpe ... 813 16
Stamp & Son, Barton-on-Humber ... 813 5
J. H. Thompson, Ltd., Scunthorpe ... 798 0
Quibell & Hardy, Ltd., Scunthorpe 798 0
Clark, Brown & Clark, Crowle 775 0
*Lumley & Bray, Winterton 772 0

Hallside.—Painter work on the Hallside primary school and the same in Fairy-street primary school, Rutherglen. Mr. John Stewart, architect, Albert-street, Motherwell :—

*John McLaren, Hamilton £870 14 7

Hebburn-on-Tyne.—18 houses in Prince Consort-road, for the U.D.C. Messrs. Page, Son & Bradbury, architects, 67, King-street, South Shields :—

*Direct Labour.

Hexham.—Six houses at Ovington, for the R.D.C. Messrs. W. Dixon & Son, architects, 1, Collingwood-street, Newcastle-on-Tyne : —

*W. Turner, 203, Park-road, Wallsend.

Horncastle.—Alterations and extensions to the Horncastle Grammar School, for Lindsey C.C. and the Board of Governors. Mr. Philip W. Birkett, A.R.I.B.A., architect, County Offices, Lincoln :—

*Thornhill Bros., Lincoln £12,672
(In lieu of tender withdrawn.)

Kilmarnock.—New junior school in Kilmarnock-road, for the Ayshire C.C. Mr. William Reid, architect, County-buildings, Ayr :—

Excavation, brick and mason—
*Jones & Miller, Troon £11,046
Asphalt—
W. G. Walker, Ltd., Ayr 3,442
Joinery, carpentry and ironmongery—
*Anderson & Innes, Kilmarnock 2,780
Plaster and cement work, lathing, etc.—
*G. & W. Rome, Kilmarnock 1,274
Glazing—
*G. G. Kirk, Ltd., Kilmarnock 100
Painting and decorative work, etc.—
*A. F. MacDonald, Prestwick 275
Electrical fittings and installation—
*W. Finlay Nelson, Kilmarnock 141
Plumber work and sanitary fixtures—
*T. Wylie & Sons, Kilmarnock 1,005

Lancashire.—For (*a*) pithead baths at Newtown Colliery, near Clifton Junction, and the same at (*b*) Bank Hall Colliery, near Burnley, Lancashire, for the Miners' Welfare Committee, Romney House, Marsham-street, Westminster, S.W.1. Mr. J. H. Porshaw, chief architect :—

(*a*) *J. Dickinson & Co. (Bolton), Ltd., Fairclough-street, Bolton.
(*b*) *A. Fenton, James-street, Miles Platting, Manchester, 10.

Leeds.—Warehouse and offices at the junction of St. Paul's-street and Queen-street, for Messrs. Boult Bros., Ltd. Mr. Percy Robinson, architect, Great George-street :—

*Matthews & Son.

Leigh.—173 houses and 10 bungalows, for the T.C. Mr. T. A. Clare, Borough Surveyor :—

†Building Department, Leigh Corporation.
(Estimated cost per house, £301 10s.; per bungalow, £270.)

Little Potten End.—Six pairs of cottages at Little Potten End, for the Berkhamsted R.D.C. Mr. J. Oakes, surveyor and engineer, Northchurch, Berkhamsted :—

H. Robinson & Son, Watford £4,660
Payne Bros., Watford 4,530
A. J. Saunders & Son, The Lee, Bucks 4,300
F. Chandler & Son, Tring 4,298
H. Fidler, Luton 4,200
Bunn & Green, Berkhamsted 4,140
Stevenson & Co., Watford 4,110
L. Bedford, Berkhamsted 3,915
J. J. Sugars, Luton 3,850
*F. Whitman, Hudnall, Berkhamsted 3,795
—. Pinn, Elstree 3,504

Liverpool.—Erection of electric sub-stations, for the Corporation :—

Hillfoot-road, Woolton-road—
*Knight & Lord, 2a, Windsor-road, Liverpool, 13 ..... £635
Chidwall Park-avenue—
*John Rimmer & Son, Ltd., 70-74, Low Hill, Liverpool £555
Manor-road, Great Crosby—
*Bragg & Collins, 11-13, Fazakerley-road, Liverpool, 9 ..... £675
Hillfoot-road, Speke—
*John Rimmer & Son, Ltd., 70-74, Low Hill, Liverpool £564
Woolton-road (Dunbabin-road)—
*Turner & Moss, Ltd., 7-23, King-street, Liverpool, 19 ..... £680
Court Hey, Broadgreen-road—
*Knight & Lord, 2a, Windsor-road, Liverpool, 13 ..... £581
Long View Farm Estate, Huyton—
*Knight & Lord, 2a, Windsor-road, Liverpool, 13 ..... £826
Dodds-lane, Maghull—
*Bragg & Collins, 11-13, Fazakerley-road, Liverpool, 9 ..... £736

Llanelly.—Building junior instruction centre, for the Carmarthenshire C.C. Mr. W. V. Morgan, County Architect, County Offices, Carmarthen :—

Hry. Thomas, Llanelly £12,460
F. Mercer, Llanelly 11,977
Brown Bros., Llanelly 11,974
B. Howell & Son, Llanelly 11,800
Isaac Jones, Llanelly 11,698
*J. M. Evans, Carmarthen 10,760

¶London.—The following works contract has been placed by the War Office during the week ended March 12 :—

Plymouth—Royal Citadel—extra garage accommodation—A. N. Coles (Contractors), Ltd., Plymouth

London.—Demolition of 154-158, High-street, Eltham. Mr. Raymond J. Sargent, architect :—

*London Demolition Co., Ltd., London-road, Isleworth.

London.—Demolition of 67, 69 and 71, Queen Victoria-street, for the City Corporation :—

Coles Demolition & Excavation Co., Ltd. £1,855 0 0
H. Sabey & Co., Ltd. 1,710 0 0
Willment Bros. 1,595 0 0
H. J. Moyes 1,431 0 0
Goodman, Price, Ltd. 1,151 17 6
*Gorst & Co. 425 0 0

London.—Wiring and fittings for electric lighting, etc., in about 800 existing houses and flats at Becontree (Dagenham area—No. 6 contract), for the L.C.C. :—

Harland & Wolff, Ltd. £11,738 8
Henfrey Electrical Installations, Edgware 11,440 2
Ryland's Electrical Co., Ltd., Goodmayes 8,898 18
Troughton & Young, Ltd. 8,370 15
Electrical Installations, Ltd. 8,320 6
Samuel Reed & Sons 8,309 14
Francis Polden & Co., Ltd. 8,271 16
W. H. Gaze & Sons, Ltd. 8,271 1
Read & Partners, Ltd. 8,221 12
G. E. Taylor & Co. 8,220 15
Alexander Hawkins & Sons 8,220 14
*Holliday, Hall & Stinson, Ltd., 34, Victoria-street, Westminster, S.W.1 ..... 7,376 16
(Chief Engineer's estimate : £8,400.)
(Remainder of London.)

¶London.—Tenders accepted by H.M.O.W. for the week ended March 12 :—

Steel cupboards for R.A.F.—Constructors, Ltd., Nickel Works, Tyburn-road, Erdington, Birmingham.
Caerphilly (Glam.) Post Office and Telephone Exchange—E. A. Bond & Co., 49, Beda-road, Cardiff.
Bromsgrove (Worcs) Post Office—erection—J. & A. Brazier, Ltd., Bromsgrove.
South Croydon Sorting Office—additions and alterations—Cropley Bros., Ltd., Imperial Works, Church-road, Epsom.
Derby Employment Exchange—erection—Wm. Wood, Fletcher-street, Heanor, Nottingham.
Mount Pleasant Post Office and Garage—installation of hydraulic lorry—Pickerings, Ltd., Globe Elevator Works, Stockton-on-Tees.
Thornton (Bradford) Telephone Exchange—erection—Thomas Obank & Sons, Ltd., Cyprus Works, Thackley, Bradford.
Burnley Employment Exchange—heating and hot water—J. Brooks & Co., 39, Tithebarn-road, Southport.
Birmingham Postal Engineers' Garage—supply, delivery and fixing of collapsible gates—The Bolton Gate Co., 248, Perth-road, Ilford.
Northiam (Sussex) Telephone Exchange—erection—J. Perigoe & Son, Northiam.

¶London.—List of new contracts to the value of £500 or over placed by H.M. Air Ministry for the week ended March 7 :—

External services, Upwood—John Cawley, Leen Side, Nottingham.
Foundations for "C" type hangars—at Wittering, F. Perks & Son, Ltd., Bridge-street, Longeaton; at Hemswell and Scampton, Dredging & Construction Co., Ltd., Artillery House, Westminster, S.W.1; at Driffield, Dishforth and Leconfield, S. Easten, Ltd., Milburn House, Newcastle; at Upwood and Wyton, T. Lowe & Sons, Broadway-chambers, Hammersmith; at Pinningley, H. Arnold & Son, Ltd., Doncaster.

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London.—24 houses in Knollys-road. Messrs. H. B. Longley & Fairer, architects, Epsom :—

W. J. Leakey & Co., Tonge House, York-road, S.E.27.

London.—Electric lighting of blocks Nos. 3 and 5 and the remainder of block No. 2, of the Tarn-street area, Southwark, for the L.C.C. :—

‡A. Meckhonik £1,766 19 1
(Chief Engineer's estimate : £1,987.)

Luton.—Workshops for the blind in Leicester-road, for the Bedfordshire C.C. :—

*H. C. Janes, Ltd., Luton.

Lynton.—Four houses at Norman's Cleave, for the U.D.C. :—

*R. H. Nancekivell £2,295 16 9
(Subject to M.A. approval.)

Manchester.—Showrooms, warehouse and offices on site of the old Tivoli Theatre, Peter-street. Messrs. H. J. S. Abrams & Son, F.R.I.B.A., architects, 79, Buckingham-street, London, W.C.2 :—

Demolition and clearing site—
*T. Maiden & Son, Ltd., Manchester.

Manchester.—Alterations to bank, 559, Cheetham Hill-road and Grosvenor-street, Cheetham, for the Manchester and Salford Savings Bank, Ltd., Booth-street. Messrs. J. W. Beaumont & Son, F.R.I.B.A., architects, 24, Brazennose-street :—

*T. Scott & Co. (Manchester), Ltd., Manchester.

Manchester.—Alterations and extensions to the "Linwood" hotel, Linwood-street, Hulme, for Messrs. Joshua Tetley & Son, brewers, Hunslet-road, Leeds. Mr. Fred Riley, L.R.I.B.A., architect, 4, Cannon-street. Quantities by Mr. T. Sumner Smith, F.S.I., Clifton Lodge, Victoria Park :—

*Tinker & Young, Ltd., Manchester.

Mexborough.—Erection of the technical institute, for the West Riding C.C. :—

*H. Knowles & Son, Herries-road, Sheffield, 5.

Middlesbrough.—Laboratory and extensions to male attendants' quarters at St. Luke's Hospital, for the T.C. Mr. S. E. Burgess, Borough Engineer and Surveyor :—

*J. McCreton, Ltd., North Ormesby, Middlesbrough £4,278

Newcastle-on-Tyne.—Structural steelwork in connection with extensive alterations and additions to premises in Grainger-street and Nelson-street, for Messrs. Price :—

General contractors—*W. Irwin & Son, 2, Burley-road, Leeds.
Steelwork—*Smith, Walker & Co., Ltd., 16, Caxton-street, S.W.1.

Newcastle-on-Tyne.—Garage, for the Newcastle Co-operative Society. Plans by the C.W.S. Architects' Dept., 90, Westmoreland-rd. :—

*C.W.S. Building Dept., West Blandford-street, Newcastle.

Newcastle-on-Tyne.—Showrooms in Blenheim-street, for Messrs. E. Baker & Co. Messrs. Hetherington & Wilson, architects, County-chambers, 52, Westgate-road, Newcastle :—

*S. Miller, Ltd., 17, North-street, Newcastle.

North Acton.—Lengthening of three bridges and the construction of a retaining wall between Wood-lane and North Acton, for the G.W.R. Plans by the company's Chief Engineer's Department, Paddington Station, W.2 :—

*Cleveland Bridge and Engineering Co., Ltd., Smithfield-road, Darlington.

Norwich.—Erection of the Mousehold-avenue infants' school, for the E.C. :—

*Education Stores and Works Dept. £7,277

Oxford.—115 houses on Wolvercote housing site, for the T.C. :—

*James Bros., Weymouth £40,676

Peterborough.—Electric wiring work in connection with the open-air swimming pool, for the Corporation :—

A. E. Sharpe £404 10
F. S. Willis 375 0
Peterborough Co-operative Society ... 317 0
*Peterborough General Electric Co., Ltd. 296 14

Preston.—New east wing at Fulwood Institution, for the T.C. Borough Engineer :—

*Wm. Jackson & Sons, Preston.

Ramsey (Isle of Man).—31 houses on the Brookhill estate, for the T.C. :—

*W. G. Kneale, S. Jellius and A. Corrin.

Reigate.—Decoration of 95 houses at Redhill, Reigate and Merstham, for the T.C. Mr. George G. Sanderson, Borough Surveyor :—

*Geo. Jones & Son, Kensington £2,880

Rotherham.—Extensions to factory, for Messrs. Beatson, Clark & Co., Ltd. Mr. E. W. Winks, A.R.I.B.A., architect :—

Reinforced concrete engineers—*Trussed Concrete Steel Co., Ltd., London

Salford.—Large extensions to works, for Messrs. Ward & Goldstone, Ltd., electrical engineers, Frederick-street, Pendleton. Messrs. Pendleton & Dickinson, L.R.I.B.A., architects, 16, Brazennose-street, Manchester :—

*David Walton & Co., Ltd., Manchester.

Shrewsbury.—Two shops on the sites of Nos. 7 and 8, Castle Gates, for the T.C. Borough Surveyor :—

*Shrewsbury Building Contractors, Ltd., New-street, Shrewsbury.

Sleaford.—Alterations and additions to the public swimming baths, for the U.D.C. :—

*Wallhead Bros. £749 3 1

Slough.—Factory and offices on Slough Trading Estate, for Messrs. Berlei (U.K.), Ltd., 208a, Regent-street, W.1. Sir John Brown, F.R.I.B.A., 83, St. Giles'-street, Northampton, and Mr. W. David Hartley, F.R.I.B.A., 226, High-street, Slough, associated architects :—

*Bowles & Son, 8, Gladstone-street, Leicester.

South Shields.—Boundary wall and fencing at Mowbray junior school, for the T.C. :—

*M. Swales, Imeary-street, South Shields £452 19 9

Southampton.—Quay wall at Bitterne-park, for the C.B. :—

H. Osman & Co., Ltd.	£12,425 18 1
J. J. Udall's Building Co., Ltd.	11,566 0 0
Situ Unit Construction Co.	8,250 0 0
Risdon Beazley Marine Trading Co., Ltd.	7,905 8 10
A. E. Farr	6,672 0 6
Edcaster, Ltd.	6,452 9 10
John Howard & Co., Ltd.	5,445 15 0
S. & M. Dowding	4,948 0 0
*A. Jackaman & Sons, Ltd.	4,558 10 11

(Borough Engineer's protecting estimate: £5,286.)

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Southampton.—Sewers and pump house at Weston drainage, for the C.B. :—

Mears Bros., Ltd.	£14,632 4 11
Edcaster, Ltd.	14,535 7 1
H. Osman & Co., Ltd.	12,141 3 7
*A. Jackaman & Sons, Ltd.	11,635 7 4
John Douglas (Southampton), Ltd.	11,588 4 1

Stafford.—82 houses on the Tillington housing estate, for the T.C. Mr. W. Plant, Borough Engineer, Town Hall :—

*W. Whittingham, Stafford £25,265

Southampton.—Construction of the proposed Twyford service reservoir, for the C.B. :—

A. E. Farr	£24,715 0 0
Contracting Corporation, Ltd.	21,212 9 3
George Wimpey & Co., Ltd.	20,734 11 6
Christiani & Nielson, Ltd.	20,391 19 11
George Pollard & Co., Ltd.	20,071 7 11
Collier & Catley, Ltd.	20,007 4 3
Edcaster, Ltd.	19,671 19 9
A. Jackaman & Son, Ltd.	19,284 11 9
Hussey, Egan & Pickmere, Ltd.	18,925 3 4
Henry Osman & Co., Ltd.	18,912 1 3
Holloway Bros. (London), Ltd.	18,448 0 0
Kelley & Son	17,989 7 2
D. G. Somerville & Co., Ltd.	17,851 17 11
William Moss & Sons, Ltd.	17,577 18 6
John Howard & Co., Ltd.	17,160 0 0
*A. Monk & Co., Ltd.	16,916 15 8

(Engineer's estimate: £20,861 7s. 7d.)

Springhead.—20 houses in Cooper-street, for the U.D.C. :—

Brickwork—	
*Whitworth, Whittaker	£3,199 0
Joinering—	
*Raymond Wrigley, Ltd.	1,549 0
Slating—	
*Joseph Jackson	439 6
Plastering—	
*E. Pearce	344 0
Plumbing and glazing—	
*W. B. Stott & Co., Ltd.	835 0
Painting—	
*Ford (Rochdale)	205 0

Stourbridge.—School clinic and infants' welfare centre at Orchard-lane Council Schools, Lye, for the Worcestershire C.C. Mr. A. V. Rowe, County Architect, 38, Foregate-street, Worcester :—

*A. H. Guest, Ltd., Amblecote £2,630

Stourbridge.—New business premises in High-street, for Messrs. Montague Burton, Ltd., Hudson-road Mills, Leeds. Plans prepared in Architects' Department, Montague Burton, Ltd., Leeds :—

*W. & J. Forsdike, Ltd., Sheffield.

Swansea.—Works, for the C.B. :—

Alterations and additions to the Dunvant Council School—
*L. H. Samuel, Swansea £5,687 17 2

Lavatories at Victoria Park—
*T. Richards, Swansea 3,533 0 0

Uxbridge.—Demolition of 198-201, High-street. Mr. Raymond J. Sargent, architect :—

*London Demolition Co., Ltd., London-road, Isleworth.

Walsall.—For (*a*) 12 four-bedroomed houses and 89 three-bedroomed houses on the Ryecroft housing site, section No. 1, and (*b*) erection of infant welfare centre in Pool-street, for the Corporation. Mr. J. Taylor, M.I.C.E., Borough Engineer and Surveyor :—

(*a*)—*G. Insley, Ltd. £26,568
(*b*)—*T. H. Nicholls 2,380
(Both of Walsall.)

Warrington.—Erection of the Church of St. John in Grosvenor-avenue, for the Parochial Council of the Parish Church. Messrs. William & Segar Owen, L.R.I.B.A., architects, Palmyra-square-chambers :—

*H. Fairclough, Warrington.
(Estimated cost £6,000.)

Wayland.—Houses, for the R.D.C. :—

Two houses at Banham—
*Tennant & Sons, Watton £677
Two at North Lopham—
*Tennant & Sons, Watton £677
Four at Shropham—
*Tennant & Sons, Watton £1,320

Wickersley.—New junior schools, for the West Riding E.C. Mr. H. Wormald, architect, County Hall, Wakefield :—

*T. Jenkinson & Sons (Doncaster), Ltd.

Witham.—New court house, police station, etc., for the Essex Standing Joint Committee :—

*G. J. Hawkes & Sons, Chelmsford ... £14,500

Wrexham.—Additions to works in Priory-street and Hope-street, for Messrs. Rogers & Jackson, Ltd., Cambrian Works. Messrs. Norman Jones, F.R.I.B.A., and Leonard Rigby, L.R.I.B.A., architects, 271, Lord-street, Southport :—

*Bovis, Ltd, London, W.1.

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